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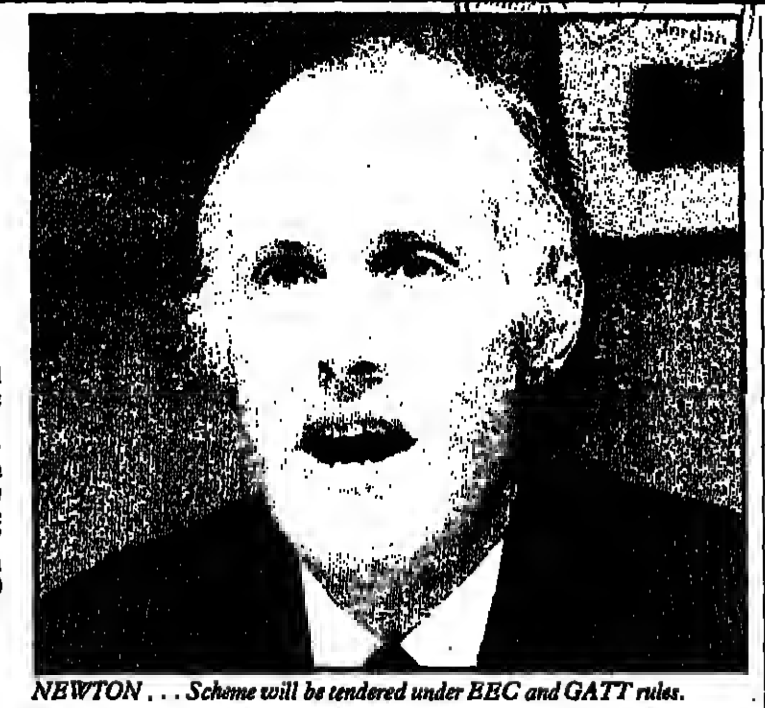
DHSS unions to fight automation



NEWTON . . . *Scheme will be tendered under EEC and GATT rules.*

by Robert Parry

THERE is likely to be a rough road ahead for the Department of Health and Social Security's scheme to computerise the whole social security system. Civil Service unions will oppose vehemently the government's £700 million plan, worried as they are by estimates of 25,000 job losses and the lack of a new technology agreement.

The DHSS outlined in its social security operational strategy calls for a three-tier structure of linked computers to replace the existing "incomplete and unco-ordinated computer systems," says DHSS under secretary David Ward.

The top of the pyramid will remain the large computer system at Newcastle, which by 1990 will be modernised and hold a departmental central index containing information on all claimants. This will be linked to terminals and microcomputers in the 1,800 local DHSS and Department of Employment offices through area computer centres to be established in the mid-1980s.

The planned scheme will spread over the next 15 to 20 years, and will involve purchase of 70 computers, 30,000 terminals and 3,000 microcomputers. This will add £700 million to the £900 million needed just to keep the present system running for that time, £200 million of it directly on the hardware.

The structure would be built up gradually, through 14 separate projects which would be tendered separately under normal EEC and GATT rules, says Tony Newton, Parliamentary Under Secretary of State for Social Security. "It will basically mean open tendering," says Newton, "though the rules do allow for single tendering when compatibility is paramount." Present DHSS computing installations use predominantly ICL machines.

The benefits of the system claimed by the DHSS include better service to the public, by establishing a single point of contact – the "whole person concept". Ward reckons information is held five times over on average at present.

"Local offices are not computerised at all," he says, "and it's a mammoth paper chase. It needs 5,000 staff just to locate and move paper around to get benefits paid." He adds that there are 25 million claims a year, resulting in 1,200 million payments, administered by 117,000 staff.

DHSS estimates put savings over the next 20 years at £1,900 million if the full plan is set in motion, most of it coming from a need for fewer staff, particularly in local offices. Job losses would start in 1984, and reach 20,000 to 25,000 by 1995.

Though Newton stresses the DHSS's guarantee of best efforts to avoid staff redundancies, the scale of the reductions in staff numbers over the years of the plan looks bad to the trades unions.

"It places the department in a difficult position," says Paul Hammond, assistant secretary for the DHSS section of the Society of Civil and Public Servants. "They have talked about benefits to the public, the government, and the staff, but what they have failed to put over is that the 25,000 staff will be cut from the 60,000 in local offices."

He reckons this will place extra work on local offices, giving a less personal service to the public. He sees the only certain benefits being for the government in chopping job numbers.

"We are looking at ways and means to introduce new technology agreements," adds Hammond, "but without one our stance is to oppose the introduction of new technology." The first test will come with the planned installation of microcomputers in local offices to help with supplementary benefit calculations.

IBM adds civil case to suit

by Kevan Pearson

IBM last week took the initiative in its trade secrets case in the US by launching a civil case to complement the criminal case currently under way. The civil case, which alleges "unfair competition" on the part of Hitachi, named in the Justice Department case, and National Advanced Systems and National Semiconductor, which are not, goes much further than the criminal case.

In its suit IBM claims that the violations of its trade secrets began in mid-1980, and that it became aware of Hitachi's involvement in October 1981. The significance of naming both NAS and Nat Semi is that NAS markets Hitachi machines in the US and Europe, and Nat Semi owns NAS.

IBM is seeking five specific remedies in its case: that the defendants should be prevented from continuing the unfair competition; that any illicitly obtained IBM documents should be returned to IBM; that the defendants should be prevented from using any improperly obtained information; that an overseer should be appointed by the court to see that the previous conditions are met; and that IBM should be awarded damages and legal fees.

IBM is said to have worded its suit so that it could obtain triple the amount of damages awarded by the court, should IBM win the case, under US legal procedure.

NAS totally denies the charges and said IBM is using the case as part of its more aggressive marketing stance, following the dropping of the 13 year anti-trust case against it in January this year.

NAS is currently considering its options in fighting the case and a counter suit is a distinct possibility.

Case drops WP arm

BURTON . . . *discussions.*

by Kevin Cahill

A SOFTWARE failure by NBI Inc of the US is blamed for the sudden disposal by Watford-based Case Engineering of its word processor business.

According to a Case spokesman, the company bought the rights to distribute the NBI word processing system on the basis that the communications software offered with the system would be available to Case. Case did not receive the software, and the decision was taken last Friday (September 17) to dispose immediately of the NBI product range.

Last August Case bought the rights to the NBI distribution network from Ventek, which in turn had the distribution rights from TRW, for a sum of £1.1 million. According to Case managing director Peter Burton, the company will continue to maintain the NBI hardware it has already sold.

LINE NOISE

Philips gets personal

PHILIPS is working on a personal computer for the domestic market – with a touch-sensitive screen as an alternative to a keyboard. The computer will have viewdata and other communications interfaces. All (or most) will be revealed by Philips Business Systems' managing director, Brian Manley, when he makes his inaugural address as chairman of the Institute of Electrical Engineers' electronics division next month.

A CERTAIN "Red Book" is believed to exist which BL would desperately like to keep secret, especially from its unions.

The Red Book is understood to be a management consultant's report, and a copy is believed to be in the possession of a university Social Economics department. It appears that BL is prepared to live with less than optimum productivity on the Metro line, which requires a certain mix of men and robots, and use robots to keep manning levels low as a stick against the unions.

IBM watchers suggest that the long awaited announcement of a new quadruple density tape drive, called Del Oro, will take place early next year. The project, code-named Occitlo, was thought to be near completion this spring, until IBM realised that the read/write mechanism of the new tape would effectively cut it off from the half of the market where a lot of processing was still done in batch models.

For back-up storage the tapes can stream continuously, while for batch processing they are used directly and need some device to respond quickly to processing demands. Accordingly, IBM has gone back to the drawing board to produce a stop/start mechanism for its new high density drives.

DESPITE a number of calls, both to the US and locally, to try and establish the facts, there is still nobody at Strategic Inc, publisher of a report entitled IBM – The Key Issues, capable of substantiating the assertion that IBM's Thermal Conduction Module (TCM) used on the top-end 308X series mainframes is a "technology trap". Can we take anything Strategic Inc says

Local nets need £3.8m

by Donald Kennett

THE Department of Industry is called upon to spend £3.8 million on local area network (LAN) standardisation and development over the next three years in a report published this week.

Reporting to the DoI's Focus committee on standardisation, its six-man LAN project team says that the current lack of standards is limiting user investment in LANs and hindering the emergence of economically attractive products.

But UK suppliers could develop products with a competitive edge if the effort were made to gain experience of using LANs, the report says. Critical aspects that should be concentrated on include handling integrated voice, image, video and data traffic, and interconnecting LANs with digital telephone exchanges and wide area networks.

The report also recommends setting up a co-ordinating body to foster standardisation work.

Under Secretary for Industry John Butcher, who is also chairman of the Focus committee, welcomed the report and the DoI has invited proposals from industry for technical or marketing development work, which could qualify for a 40% grant.

Schlumberger to buy control of plotter giant

by Jack Gee

THE French government has given the powerful American multinational Schlumberger the go-ahead to acquire a controlling stake in Benson, the world's second ranking computer-aided draughting firm.

Benson faces serious cashflow problems following a decade of expansion at an annual average rate of 33 per cent. Last year's turnover reached FFr300 million (£24 million), half of it from the US.

With a workforce of 900, Benson covers three-quarters of the French market, half of Europe's, and a quarter of the entire world's.

The arrangement to which the French government has given its blessing provides for Schlumberger to acquire a stake of 70 per cent in Benson. But market experts say this will certainly be raised to 100 per cent.

French firms have only 40 per cent of the shares in Schlumberger and it is difficult to see how they could resist the American juggernaut's desire to exercise complete control.

Each of the 400,000 shares in Benson will be valued at between FFr500 and FFr600 (£40-£48) more than was expected last spring when Benson expressed its intention to introduce them at the Paris Bourse. The firm's equity is therefore worth between FFr200 and FFr240 million (£16 million-£18.5 million) more than six months ago.

Schlumberger announced at £720 million profit for a turnover of £32 billion last year.

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Sales 40% up at ICL France

by Kevin Cahill

ICL's French subsidiary will report sales up 40% on the previous year when the company closes its books tomorrow.

According to Midhat Gazalé, the French managing director, the company will report 1981-82 sales of FFr450 million compared with FFr280 million last year.

The surge in orders coincides with a cut in staff from 1,200 two years ago to 850 now, which is expected to bring profit at ICL France to reasonable levels.

Gazalé cautioned that the 40% rise was from a bad year, when the company was hit from three directions at once. He said that ICL France had been hurt by the weak performance of the French economy, a 30% appreciation by the pound against the French franc, and credibility was affected by the problems at the parent in the UK.

More than 30% of current orders have come from products launched this year, according to Gazalé, who also revealed that in the week of the national trade show Sicob the company had taken an order for the first 2988 computer to be sold in France.

Worth over £1.2 million, the machine will shortly be delivered to one of the French agricultural credit banks near Le Mans. ICL France also signed up two 2966s last week, which makes it one of the most successful weeks in the company's history.

Commenting on a statement made by Piere Mauroy at the opening of Sicob, Gazalé said that national preferencing was strong and would get stronger. Mauroy had said that foreign companies were welcome in France so long as they did their manufacturing there.

He also noted that the target set for ICL France in terms of profitable sales for 1982-83 was 20% above the 1981-82 actual. "And we will make it."

GAZALE . . . *Buoyant.*

READ . . . *"Government should publish report as soon as possible." It recommends that £350 million be spent.*

Cold feet on 5th generation

Alvey author's doubts on the government's willingness

by Kevin Cahill

ONE of the authors of the Alvey Committee fifth generation report has cast doubt on the government's willingness to adopt its proposals.

Charles Read, director of the Interbank Research Organisation and a member of the still unpublished report responding to the Japanese fifth generation project, this week said that the current government is a long way from "*thinking* of the not *infinite* but substantial funds needed to get adequate research going in the UK."

A draft copy of the Alvey report has been circulating in Whitehall since August, and although publication was scheduled for this autumn, no date has yet been fixed. John Alvey, head of technology at British Telecom, is chairman of the task force which the government has asked to outline future UK information technology needs.

Read, who was addressing a sparsely attended Pergamon Infotech conference in London on the fifth generation, declared that there is a positive role for the government in funding research into projects similar to those being developed by the Japanese.

But the choice about what areas to research will not be made sensibly if left to market forces, Read said – a comment which the Thatcher government and many an industrialist will find indigestible.

Read agreed that the lesson of Japanese funding for the fifth generation project would be difficult for the current government to swallow, and as a result he hinted that publication of the report may be delayed.

It has been emphasised over and over again by the government that industry should stand on its own feet and do its own funding for projects which may benefit it.

Read, who would not comment directly on the Alvey report, said that the "government should publish the report as soon as possible". But he did not think that Information Technology Minister Kenneth Baker would allow publication of the report before he had decided his reply on this and other difficult questions, like money.

The figure that the Alvey committee is though to be recommending is some £350 million split over government and industry, with government expected to pick up the bulk of the bill for basic research. The recommendations are understood to emphasise university research as opposed to commercial research in market products.

Read made the point that the UK lacks the proper infrastructure for a collaborative effort similar to the Japanese. And he took that statement as a lead into a more direct attack on the government: "We cannot run down the infrastructure of education the way we are doing and hope to survive."

Earlier in the session Professor Moto-Oko, chairman of the Japanese Fifth Generation Project, acknowledged that so far no country or company had gone into formal collaboration with Japan. That the international collaboration the Japanese have invited in the project is not taking place seemed to be causing them considerable concern.

IT Year committee hits back

by John Kavanagh

THE Information Technology Year committee has hit back at critics who say its aims are too narrow.

The argument became public this week when IT82 took up a challenge from the Ergonomics Society to debate the motion that the "information technology campaign is misguided in that it fails sufficiently to encourage an ergonomic approach to IT, its use, installation and consequences for work practices and job design."

"You don't try to sell Daz until you've sold the idea of the need to do the washing," said Roy Dingle, IT82 project manager, who opposed the motion. "In the same way you don't start talking about ergonomics until you've told people what information technology is. A Mori poll before we started showed 98% of the population knew nothing about it.

"Other people, besides the ergonomists, have come along and said this and that are important. It's true that we haven't actively encouraged an ergonomic approach to IT – but that's not our aim. Our goal is to improve public awareness of IT."

Dingle said IT82 had been slow taking off but there was now "tremendous momentum". There had been "enormous response" to an advertising campaign in June and another campaign was now starting.

Dingle added that IT82 had not ignored ergonomics. It had a film and books and could provide speakers on the topic.

John Wood, director of ergonomics consultancy Communications Complex Design, who proposed the motion, called on the government and industry to seek the advice of ergonomists to improve products.

$45m deal for Amdahl subsidiary

AMDAHL'S Tran Telecommunications subsidiary has won a $45 million contract from Bell Canada to expand its nine-year-old Dataroute digital circuit-switched network.

Tran's networking multiplexers, which pass call data to the system's network management centre for billing and other purposes, were originally developed for Dataroute and are now attracting the interest of UK companies looking for equipment to manage connections to British Telecom's Kilostream and Megastream digital leased circuits.

Double memory

WEST German firm Nixdorf has topped off its home-built computer range with the 8870 model five, offering one Mbyte of memory, twice the capacity of other models. Disc storage is expanded to 528 megabytes. The new model also has fast arithmetic hardware

CMG franchise

CMG is reorganising its marketing with the pilot appointment of a franchise to sell its bureau services. The franchisee is a West Midlands based management consultancy. The use of a franchise operation will allow CMG to sell services in areas where it has not been able to market actively, according to CMG director Chris Harrison. If the first franchise proves to be successful after 12 months, the company will expand its programme.

Private strike

UNIONS at British Telecom have chosen October 20 as the day for their major protest against the government's plans to privatise the company. Three of the six unions will strike for 24 hours, and the others have instructed members to join demonstrators, and to take part in a mass lobby of Parliament.

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Computer Weekly staff report from Sicob, France's biggest computer show, which was held in Paris last week

Embassy enters information age

by Jack Gee

BRITAIN's Embassy in Paris has joined the information revolution and installed an ICL System 25 to put French buyers in touch with English companies.

It is the first UK embassy to do so.

The computer will contain records of 10,000 British companies and 30,000 of their senior executives in order to meet requests for information from French firms interested in placing orders in Britain.

At present these requests – in which computer purchases top the list – mean lengthy searches of manual files and often depend on the memory of the commercial officer involved. With the System 25 the search will be cut to real time from an average of at least one hour.

Three women employees of the Embassy are transferring the manual files from the trade registry to the computer, which is scheduled to be fully operational by the end of the year.

If the system and its software, which are believed to have cost about £65,000 to purchase and install, are a success, it will be duplicated in UK embassies all over the world.

Britain already has information systems operating in five capitals and business centres abroad but these are basically word processors. In Paris the programs have been written for a custom-built system.

The Foreign Office, which has masterminded the venture, will have the choice of buying extra terminals or microcomputers. Plans are ready to link the Embassy's System 25 with the commercial departments of Britain's consulates in Lille, Bordeaux, Lyons and Marseilles. Each of these offices could then consult the Paris records as well as being accessed from the Embassy over France's Transpac data packet switching network.

The System 25's next appearance is likely to be in Bonn which will be linked with Britain's commercial offices in Frankfurt and Dusseldorf.

The American State Department helped the Foreign Office with its own experience in setting up computerised systems in US embassies throughout the world. The Americans have spent an estimated $57 million on these efforts, compared with a British investment of a fraction of this sum.

The Foreign Office has plans to extend the use of the system 25 in Paris to incorporate visa and other consular records. But this project involves security measures to ensure that unauthorised persons cannot access confidential data.

SICOB
INFORMATIQUE . TELEMATIQUE . COMMUNICATION . BUREAUTIQUE

Sicob was opened by the French Prime Minister who said France welcomed foreign manufacturers, but also [illegible] nationalisation.

Political tone fails to impress

by Boris Sedacca

SICOB was officially inaugurated by the French Prime Minister, Pierre Mauroy, but most foreign computer companies were disappointed with his political tone.

Mauroy said: "France has always and will always be happy to accommodate foreign industries on its territory. The government knows that by coming to our country they can benefit from our considerable effort in favour of enterprises, particularly those involved in the electronics sector.

"Your sector is in effect one of those on which the government has chosen to base its politics of industrial renovation. We have thereby set out to realise the reforms desired by the country. In particular, with nationalisation, we have taken the means to master industrial politics," he added.

But some of those attending the inauguration were unimpressed. "The speech was overtly political but said nothing new," said one foreign computer manufacturer operating in France. "Mauroy mentioned a French government spending programme of 140 billion Francs which has already been announced.

"He also spoke of the participation of foreign manufacturers with the French government in computers and informatics, but most of us know that the lion's share of the money will go to a handful of large French companies like CII-Honeywell Bull, CGE, and Thomson CSF," he said.

Mauroy also referred to the recently constituted Ministry of Research and Industry, describing it as a "great national ambition". In budgetary terms, he said, France's research effort to 1985 would constitute between 1.8% and 2.5% of its gross domestic product.

"France must have the means to be in the forefront of the technically developed countries. In some sectors, we have achieved this," he said.

He added that commercial considerations would never take precedence over technological ones. "Our plan has to be, above all, an offensive one to make products both at home and abroad, and to make French electronic enterprises buoyant ones [illegible] invest and create employment'. [illegible] said.

MAUROY . . . "[illegible] industrial politics."

Pioneer founder resigns from R2E

by Boris Sedacca

ANDRE Truong Trong Thi, the founder of French microcomputer maker R2E and one of the first to build a microcomputer based on a single chip, resigned on the eve of Sicob after difficulties with parent company CII-Honeywell Bull's management.

Eleven years after its formation by Thi, with little capital investment, R2E is regarded as the cornerstone of France's microinformatics strategy.

Truong Trong Thi had difficulty finding financial backers for his enterprise and accepted a takeover by CII-Honeywell Bull in 1978. But it was not a happy marriage between the dynamic micro manufacturer and the inertia-bound state organisation.

The announcement of Truong Trong Thi's departure just a few days before Sicob has taken many by surprise in the French computer industry.

His remaining 2% of the R2E stock has now been bought up by the loss-making CII-Honeywell Bull.

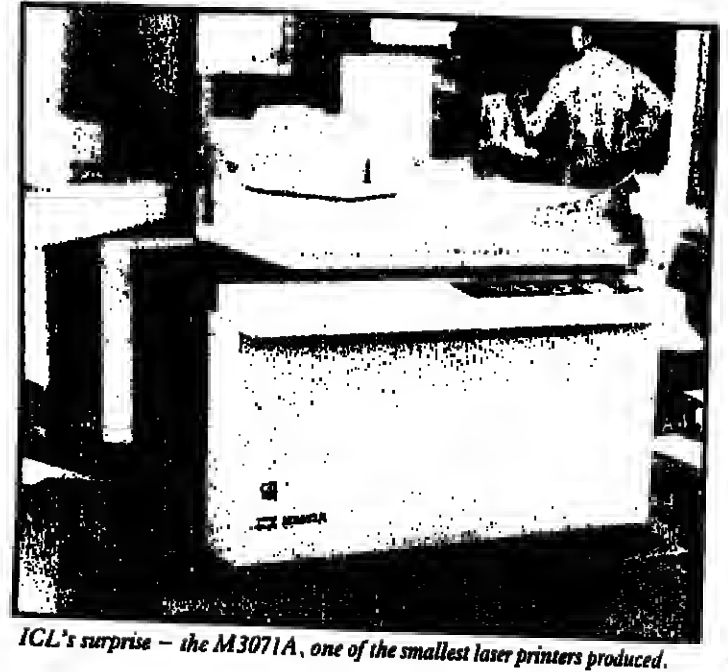
R2E had a turnover of FFr 200 million (approximately £19 million) for fiscal 1981, of which 50% was from export sales to over 40 countries throughout the world.

Both CII-HB and R2E jointly launched a personal computer at Sicob, the Micral 90-50, developed by R2E. It is not clear whether R2E will continue to operate as a separate company or whether it will be absorbed by its parent.

The announcement of a 16-bit micro by both companies comes at a time when the market is becoming increasingly crowded with the likes of IBM, Digital Equipment, Olivetti and Sirius.

The Micro 90-50 is based on an 8086 microprocessor with 256 Kbytes of memory and an optional 8087 mathematical processor. Another option includes five megabytes of fixed and five megabytes removable hard disc storage.

Two other French micros were also launched at Sicob, the To-7 from Thomson-Brandit and the Axel Zo from Axel.



ICL's surprise – the M3071A, one of the smallest laser printers produced.

ICL steals the show

by Kevin Cahill

BY presenting without advance notice a desk-top multifunction laser printer, ICL stole the show at Sicob. The machine, called the M3071A, is manufactured by Fujitsu and was delivered to the ICL stand as a prototype during the week. (See picture, above).

The M3071A, 17.8 inches high by 28.1 inches long and 23.6 inches wide, is one of the smallest laser printers produced by any manufacturer and will immediately be adopted into the ICL product line. What made the machine so interesting apart from its very small size is that it can act both as a standalone and online computer printer.

It can photocopy as well as handle complex input. That input can be printed on its own or other connected computer printers. The machine can also do very complex image scanning which can be electronically mailed to other computer systems.

Machine output speed is 20 pages or about 600 lines a minute, while it can scan about 350 lines a minute. Output is to plain paper. According to ICL staff the machine will initially be sold as part of the Perq product line for a price of about £8,000.

There was, however, some concern expressed by the ICL staff that Fujitsu had already supplied a prototype machine to a number of Japanese trading companies. "We do not appear to have an exclusive on this one," a spokesman for ICL said.

Prime gives Ethernet a 32-bit miss

PRIME has excluded Ethernet from its minicomputer networking strategy.

Last week at Sicob the company launched a 32-bit minicomputer targeted specifically at the distributed processing market. The new Prime 2250 has about 80% of the power of the current low-end machine, the standalone Prime 250 mini, and uses the same chip technology.

The system will offer compatibility with IBM and ICL communications networking architectures as well as its own Primenet.

Ethernet is excluded because Prime's competitors are attaching devices to it "only at the lower levels", according to Roland Pampel, vice-president of research and development at Prime.

"If you ask them about higher level connections, you should get an interesting answer," he added.

The 2250 will attach to IBM Systems Network Architure using interactive 3274 or remote job entry 3777 protocols, and to ICL mainframes using the CO3 RJE protocol.

Sixteen machines have been ordered by systems builders in the UK, including 11 from Wootton, Jeffreys and Partners.

Also launched was a block-mode terminal, the PST 100. A 2250 processor with half-megabyte memory costs £25,900 including a 68 Mbyte Winchester disc drive, back-up cartridge tape and an eight channel controller for attaching PST 100 terminals. Terminals will sell at a one-off price of £1,040. A one-megabyte processor sells for £2,750.

Whereas the major minicomputer manufacturers such as Digital Equipment and Data General have moved into the microcomputer market in order to capture new users and eventually move them up into their minicomputer range, Prime is focussing its attention on large corporate users.

Prime also announced the appointment of Roy Brubaker, previously vice-president of marketing at AT&T International, the overseas arm of the US telephone giant, to the position of vice-president of worldwide sales and services.

Referring to the widely anticipated competitive battle between IBM and AT&T following the dropping of anti-trust cases against both companies by the US Department of Justice, Brubaker said: "It is not going to be like two trains colliding at 100 miles per hour. The two are coming from different directions and are not necessarily heading for the same territory."

DBMSs are too complex

DATABASE management systems have proved to be too complex. The number of logical accesses to data bears [illegible] relationship to physical access, says Dennis Hermann, manager at French computer services bureau IE Service.

But he went on to add that expenditures on DBMS are usually more than offset by such benefits as fewer system design errors.

Speaking at Convention Informatique, a series of conferences for the Sicob exhibition, Hermann said: "The introduction of DBMS is becoming unavoidable."

Hermann added that classic analysis techniques are not [illegible] suited to typical DBMSs. "The tool came before the method and was therefore badly used."

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'What is IT' ask the town halls

by our local government correspondent

THE UK's town halls last week met to get to grips with information technology – but found difficulty in defining what it is.

A joint LAMSAC (Local Authority Management Service and Computer Committee) and IT82 Local Government Stream endeavour, IT and Local Government in the Eighties, had been predicted by both LAMSAC and the IT82 Committee to be one of the "most significant" and "most prestigious" conferences to be held during IT Year.

Lamsac chairman Sir Duncan Lock opened the conference with a vague stab at pinning down just what IT is: "IT is about computer communications."

Tom King, Local Government Minister, emphasised that "the new language" must be learned, and "the great cry of value for money and efficiency" be answered. He acknowledged the poor example set by central government in its own use of IT, which he claimed is greatly surpassed by the trail-blazing of individual authorities.

Alan Benjamin, chairman of the IT82 Steering Group, attempted his own definition of IT: "The applications of microelectronics so that communications can be managed more effectively". Yet he hinted that what is seen as more effective management by some may not be seen as such by others.

John Barratt, chief executive of Cambridge County Council, underscored the difficulty of defining what IT is: "I imagine there are many dictionary-type definitions which have been attempted." He then proceeded to offer the conference's third: "The capacity to gather, store, retrieve, analyse and reproduce information."

Surprisingly, no major speaker referred to the UNESCO definition of IT, officially adopted by the DoI: "The scientific, technological and engineering disciplines and the management techniques used in information handling and processing; their applications; computers and their interaction with men and machines; and associated social, economic and cultural matters."

The second phase of the conference addressed some of these "associated social, economic and cultural matters", although it was the "opportunities" rather than the "problems" that dominated the agenda.

Sir Charles Carter, vice-chairman and chairman of the Research Committee Policy Studies Institute, was the only major speaker to present a dissident view. He took issue with the IT Year literature statement that "IT is making an immense contribution to schools", commenting that it confuses potential with achievement.

THOMAS . . . building on recent CSA changes to expand membership.

CSA – more members

by Philip Hunter

THE new head of the Computing Services Association aims to use the group's new rules to expand its membership.

Peter Thomas, Pactel director and now president of the CSA last week said that he hopes to exploit changes made in the Association's constitution to expand the current membership of almost 200 firms.

At present, CSA members include bureaux, software houses and consultancies. Under the recent update to the constitution, software houses and bureaux are now considered as one, and CSA also clarified the different membership categories which include affiliates and associates.

NCR fails in $2m appeal

by Howard Karten

NCR CORP of Dayton Ohio last week lost its appeal of $2.3 million fraud verdict against the company in a lower court.

The ninth US Circuit Court of Appeals upheld by a vote of 3-0 the verdict for Glovatorium Inc, a California dry cleaning firm that felt NCR had taken it to the cleaners when an NCR 8200 mini failed to perform as promised.

The award is believed to be the largest fraud verdict yet handed down against any computer manufacturer.

NCR now has the option of appealing the decision to the US Supreme Court. The original award against NCR was a total of $285,000 for misrepresentation, bad faith, and breach of warranty, and $2.07 in punitive damages.

An important aspect of this case is that both the Appeals Court and the US District Court that originally heard the suit indicated that NCR's standard disclaimer was inoperative where a verdict of fraud was returned.

CAP enters local area networking with Racal

by Maggie McLening

SOFTWARE house CAP has joined forces with communications specialist Racal-Milgo to make its debut in the local area networking market.

CAP has developed a suite of programs under the collective name of Transit to enhance Racal-Milgo's Planet network system, and to provide users in commerce or industry with communications tools for application system building.

"Planet can connect different manufacturers' machines with no difficulty," said Ade Allen, a consultant from CAP Reading. "It's when you try to get the software to communicate you have problems, and that's where Transit comes in."

Using the Transport Service module, application programs on different machines can interchange data without the user having to worry about details such as addressing, protocols, routeing, or error recovery.

There are four programs within Transit, all structured to comply with the International Standards Organisation (ISO) seven layer model for open systems interconnection. They are Transport Service; Terminal Transport Service, to link terminals; File Transfer, for bulk data movement between applications independent of file structure; and Software Terminal Multiplexer, to simulate, using software, the effect of a hardware multiplexer and thereby cutting the cost.

Despite Planet's facilities for data and word processing, facsimile, electronic typewriting, file sharing and copying, CAP is markedly reluctant to describe the joint product as an electronic office.

"We are avoiding grandiose claims in the marketplace," said CAP Reading managing director Keith Gathergood. "Planet is a cable-replacement product, rather than the office of the future, and it is easier to wean people on to local area networking from today's comms. Certainly, Planet and Transit could be used as a basis for an electronic office with other bits grafted on, but we're not yet sure what the other bits should be."

As a first step towards finding out, CAP is to install Planet in-house at Reading to gain first-hand experience, and to see what benefits can be derived from it for running the business side of CAP.

Personal computers can change our lives

PERSONAL computers could affect our everyday lives as much as the invention of moveable type in the fifteenth century. They will change the way we work and play – but there is a big educational job to be done first.

This is the message from Dr Louis Robinson, who will give a special lecture sponsored by Computer Weekly as part of the British Computer Society's Silver Jubilee celebrations. Robinson is director of university relations for IBM in the US.

"As easy-to-use personal computers and terminals evolve and become cheaper they open up the possibility of information literacy to the whole world and this can change the quality of life," says Robinson. "As one example people will start using big, publicly available databanks not only in business but to help them in their hobbies."

The big problem will be education: "People need to understand how to exploit computing across different disciplines. We also need greater understanding of how to apply it to society – and to protect society against the misuse of computing."

ROBINSON . . . "Databanks for hobbies."

Robinson's lecture on the challenges of evolving technology in the next 25 years will be held at the Royal Society, 6 Carlton House Terrace, London W1, on March 2 next year.

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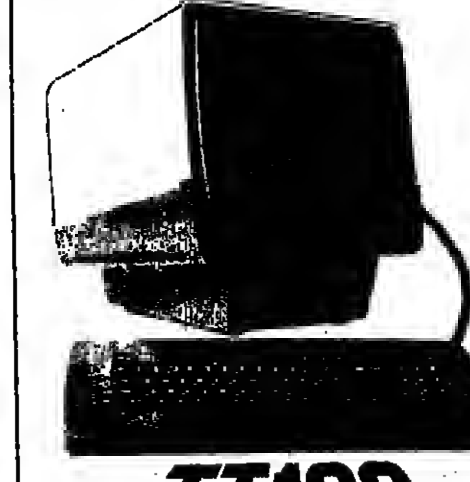

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SALES BRIEF

Sherwood boosts power with 2966

SHERWOOD Computer Centre, a Romford-based bureau and software house specialising in the insurance industry, has replaced its ICL 2960 mainframe with an ICL 2966 which gives it more than twice the processing power. Alongside the 2966, the bureau has installed a dual processor four Mbyte Prime 850 to run motor insurance and personal accounts systems for clients at Lloyds. The new systems cost over £750,000.

Police nab Codex

MOTOROLA'S data communications subsidiary Codex has installed a network of multiplexers and modems worth "tens of thousands of pounds" for the Warwickshire police. The system was designed by Honeywell and a police team, and Codex is supplying a number of Type 6001 statistical multiplexers, LSI-48I 4,800 bits-per-second modems and UDS-103 300 bps modems to link VDUs and printers in police stations to a dual processor Honeywell DPS 6/54 at the force's headquarters near Kenilworth.

Satellite system

THE Independent Broadcasting Arthority has licensed its MAC (multiplexed analogue component) satellite transmission system to Comsat subsidiary Satellite Television Corp in the US and Digital Video Systems in Canada. The IBA has proposed this system as a European standard, and it is claimed to have advantages over existing systems for broadcast quality, as well as providing for the encryption of pay television broadcasts and for future image enhancements.

Steel minis

FERRANTI has won an order worth over £250,000 from British Steel for two Argus 700G minicomputers with Ferranti's PMS process management software and Fortran program development facilities. One will carry out mathematical modelling to optimise fuel consumption in 30 steel processing units and will be linked to the other, which will monitor plant instrumentation.

Vacation work

INDEPENDENT maintenance company DPCE has won an extension to its contract with Exeter University to cover two Prime machines, a 750 and a 550, as well as the ICL System 4/72 and a number of Digital Equipment minis which it already maintains. The Prime machines run 24 hours a day during term time, and preventive maintenance on them is restricted to vacations.

Micro property

DIGICO has won a £30,000 order for its 3800 Series micros and peripherals from London-based Central Property Index, a system house specialising in the estate agent market.

CPI is also developing a multilisting service which agents will be able to access from their micros.

Councillor Robin

ZYGAL Dynamics of Bicester has won an order worth more than £8,000 from West Sussex County Council for three Digital Equipment VT18 Robin microcomputers. The Robins will be linked to a Digital Equipment VAX-11/780 and used for data capture in the property management, personnel and data processing departments.

Chemical change

LIQUID crystal manufacturer BDH Chemicals of Poole has ordered a £400,000 ICL 2958 to replace its two ICL 2904s in stock control, order processing and other commercial applications.

Govt backs IT for disabled plan

BUTCHER . . . Both disabled people and the computer industry can benefit from scheme.

by John Kavanagh

THE government is putting £1.5 million into information technology projects for disabled people over the next 15 months. The Department of Industry is paying for computer equipment to enable disabled people to work from home, backing the development of micro-based aids and offering to help charities to set up computerised information systems.

Announcing the plans, Industry Under Secretary John Butcher said both disabled people and the computer industry could benefit from this investment.

Six severely disabled people have been given equipment and another 50 projects will follow. The cost has been £250,000, including equipment and consultancy fees, but Butcher expects future projects to cost less because they can benefit from experience gained so far. Employers just pay the person's salary.

Organisations taking part include BP, the British Computer Society, Trusthouse Forte and software company F International, which already has many programmers working from home. Jobs range from stock records maintenance to word processing and examination administration. Equipment includes terminals and microcomputers.

"Many organisations employing disabled people can vouch for their loyalty and record of good health, as it affects their work. An employer can not only gain a conscientious and able employee but also give hope and meaning to the life of an individual," said Butcher.

The backing for micro-based aids is aimed at bringing research projects to market. "Several aids have been developed but they remain at the stage of completed research on a workbench or in a cupboard," said Butcher. The department is now placing [illegible] priming orders to encourage [illegible] mercial production, stimulate [illegible] mand and cut unit costs.

"We hope to benefit both disabled and the small [illegible] turing companies which [illegible] these aids," Butcher said.

About £500,000 has been [illegible] mitted to the Department's [illegible] this year and another £1 million [illegible] expected to be spent in [illegible] Other projects include the [illegible] of a film on information [illegible] nology and disabled people [illegible] funds for organisations which [illegible] them, including charities, [illegible] prove their information systems.

● British Telecom has set [illegible] trial of terminals which enable [illegible] people to use the telephone. Six [illegible] ted people will have a year's [illegible] use of the Vistel terminal, [illegible] keyboard, strip display and [illegible] ic coupler, and the Vistel [illegible] which has a printer and tape [illegible] corder.

US bank spending will boom

by John Kavanagh

US COMPUTER service companies could be in for a boom as banks increase their spending on external processing and development services by 140% by 1986.

But big changes in US banking mean established suppliers in this market cannot sit back and wait for the business to roll in.

These are conclusions of a report on the US market, New Processing Opportunities in Banking, from the research firm Input*. It says banks' spending on services will grow to $6,400 million by 1986.

The biggest growth will be in consultancy, programming and training services, where spending will increase by 28% a year to $895 million. Software purchases will grow 23% a year to $1,490 million and facility management by 22% to $1,115 million.

The biggest money-spinner will be remote computing services, which will account for $2,050 million. Batch services, now second in the spending stakes, will grow at just 5% a year to $850 million and drop to last place.

The report is based on a survey of 38 banking institutions and 17 suppliers.

* New Processing Opportunities in Banking. Input, Airwork House, 35 Piccadilly, London W1. £1,200. 164 pp.

Two firms get PC online

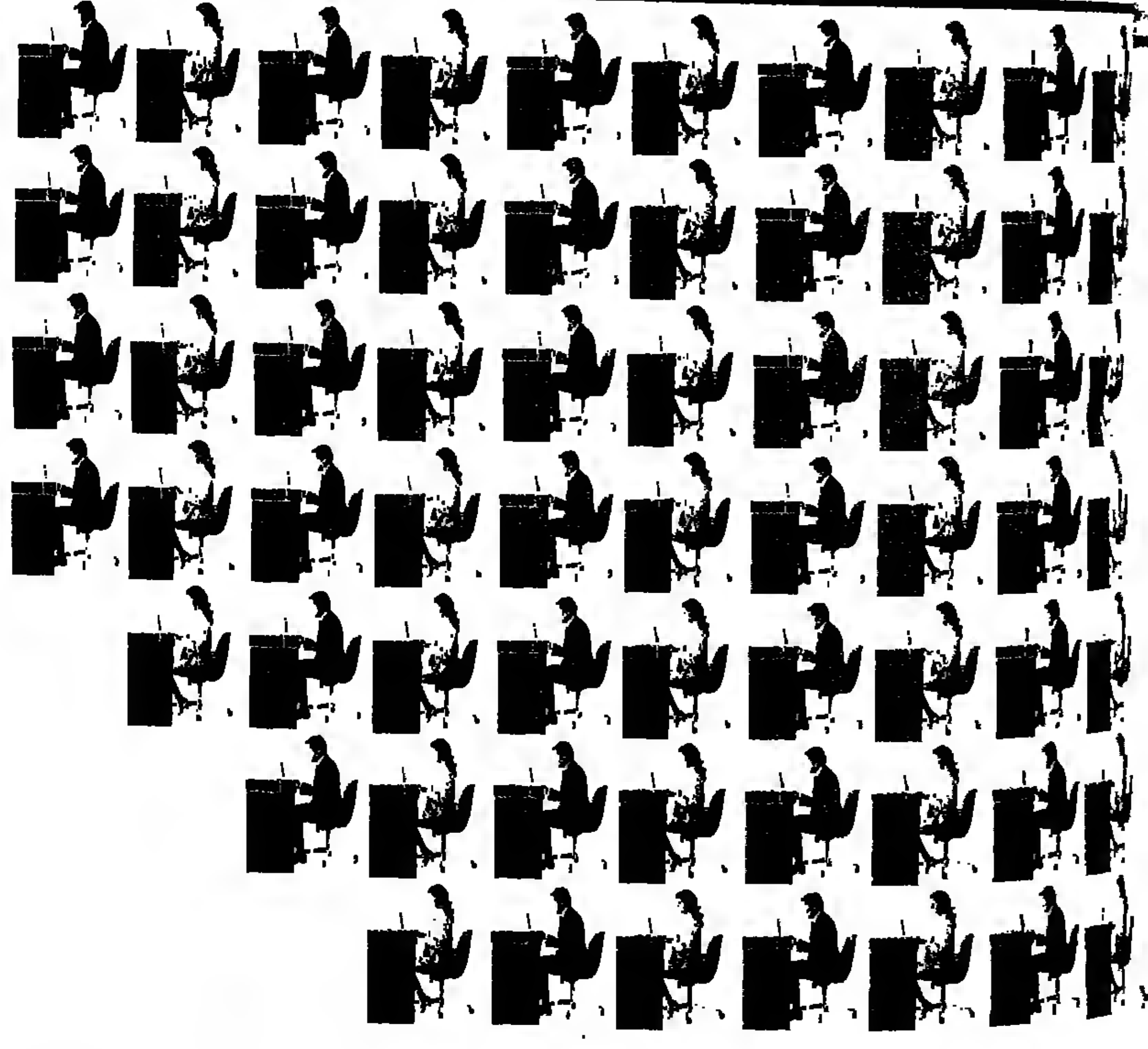
by Howard Karten

US FIRMS are jumping on the bandwagon to get IBM's personal computer online. Two firms this month announced products that will provide 3270 emulation capability for the IBM PC.

IBM and DataSource Systems Corp both announced packages consisting of a printed circuit board and a software package. At least two other US firms are said to be working on similar packages.

The DataSource offering, called Emulink, operates with any 3270-compatible mainframe, according to the vendor, and provides communication at up to 9,600 baud, 24 program function keys, and virtually all the features of actual 3270 terminals.

IBM's offering, scheduled for delivery next January, supports systems network architecture (SNA) and allows the PC to emulate both the IBM 3270 and 3101



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3. AM-1042 (winchester)	32MB	2.4GB	512KB	3MB	[illegible]	26	A	B	AMOS*
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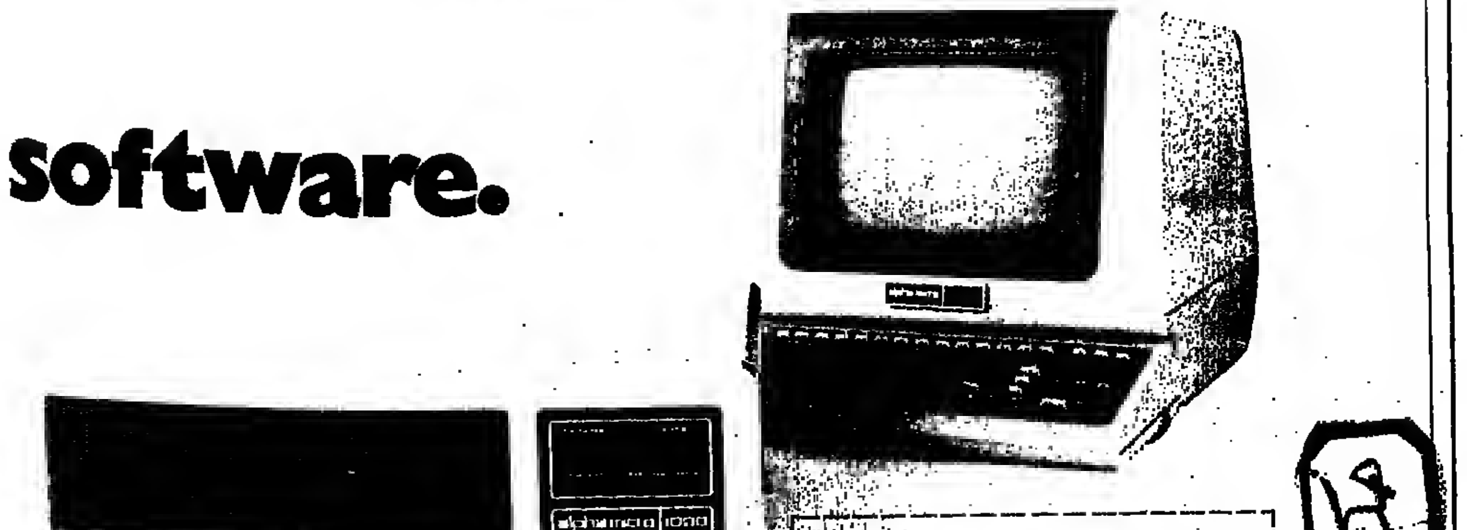

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Users say IBM abused its power

by Kevan Pearson

IBM's user group has slammed its supplier over what it calls an exploitative policy on price increases.

In a letter to IBM UK's assistant general manger Tony Cleaver, CUA chairman John Grant attacked IBM's latest round of price increases, announced early in September, and accused IBM of abusing its "very powerful position" over customers.

Grant asked why IBM had seen fit to continue its policy of twice-yearly price rises, when both inflation and interest rates have fallen significantly over the six months since IBM's last round of price increases, announced in February.

Grant said, "This practice, which may have been acceptable in days of high inflation, is highly questionable in the present economic climate."

IBM has acknowledged receipt of Grant's letter, but has not yet responded.

But the CUA is likely to get short shrift from IBM on its price change policy. Although IBM, unlike some of the other US owned multinationals, gives local managements a fair degree of autonomy, it still retains a high level of central control, with the reins firmly held at the company's Armonk corporate headquarters. What probably happens is that the order for a price increase goes out from Armonk and the local subsidiaries have to respond by generating increased revenues. The details of how they do this is down to them, but the general level is set by IBM at the centre.

Consequently the CUA can expect little more than an acknowledgement, and a meeting to explain why IBM will not change its policy.

The latest price rise is the second in six months, but is the fourth major rise in about 15 months. And while not all product ranges have suffered on each occasion, the result has been a steady and fairly steep rise in the cost of using IBM products and services.

Users will suffer still more in the next 12 months when IBM starts to ship its new large machine operating regime, MVS/XA. National Advanced Systems, which sells IBM-compatible processors and peripherals says that MVS/XA will cost a minimum of 2.5 times the cost of using MVS/370, and could be many more times as expensive.

IBM has been shifting the burden of profitability from hardware to software and services continually over the last few years as the costs of hardware have fallen. And although software is at the moment still a relatively small portion of the overall IBM pie, when MVS/XA is in widespread use, by 1984/5 according to industry experts, the burden will have shifted significantly.

Low end Crays are half-price

by Philip Hunter

CRAY Research has announced a new range of supercomputers that effectively halves the price of its lower end processing power.

At the same time it has cut the price of its most powerful X-MP Series, announced last year, by about 20%.

The new range is called the M Series, and incorporates MOS memory technology into the existing Cray-1/S. MOS is cheaper, denser and uses less power than the older core memory, but is slightly slower.

The new Cray-1/M machines are therefore a little slower than the older 1/S Series.

But Cray claims the difference is only a few per cent, and points to a vast price difference. The new M Series ranges from $4 million to £7 million, while the S Series costs from $8.5 to $13.3 million.

The cheaper models in Cray's new M Series cost about the same as the top of Control Data's 800 Series of mainframes released last spring. But CDC dismisses comparisons between them.

HOSKYNS . . . leaving the Prime Minister for Robb Wilmot.

ICL adds two top men as Holley bows out

by Andrew Thomas

ICL's main board, in need of new blood since the purge of the old school in May 1981, is to gain two non-executive directors from tomorrow (Friday). And on the day the new men move in, another long-serving top manager leaves ICL for greener pastures.

Robert Horton, chairman and managing director of BP Chemicals, and Sir John Hoskyns, one time head of the Prime Minister's Policy Unit, are joining, while Tim Holley, director of Applications Systems and Services (AS&S), with 20 years' service behind him, leaves to become managing director of Racal Electronics' communications subsidiary, Racal-Milgo.

Hoskyns' close ties with the Prime Minister have led to speculation that, following his appointment to the ICL board, he will be reporting back to Number 10 on ICL's progress towards recovery. The company denies this.

"Sir John has no formal connection with the government," said an ICL spokesman.

Horton's name has been mentioned as a possible future chairman of BP, and the diversification of his business interests follows a similar pattern to that of his ex-BP colleague, ICL chairman Sir Christophor Laidlaw, who left BP last year when it became apparent that he had failed in his bid to become chairman.

Hoskyns was the man who prepared Thatcher's long-term plans to curb the power of both the unions and the civil service, and comes to ICL having gained experience with both IBM and the software house which bears his name. ICL refused to comment on how much the new directors will be paid for their services.

Following Holley's departure, the company is to restructure its services division, and is not appointing a replacement.

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RAISON . . . government will not reshape approach to data privacy.

No U-turn on privacy

by Jack Gea

TIMOTHY Raison, the Home Office Minister who has just made a European tour to study how the UK's neighbours' privacy is protected against databanks, said in Paris that France's experience gives Britain no reason to change its approach to the problem.

Raison was speaking after a session with the French National Commission for Information Technology and Individual Liberties (CNIL) which has played a watchdog role since 1978.

The minister, who later flew on to Vienna, Stockholm and Bonn to learn how Austria, Sweden and West Germany are dealing with data privacy, said: "It was valuable to meet the CNIL. But what I learned here in Paris will not cause us to reshape our approach."

The 17-member commission's independence from French government pressure is guaranteed by the dominant role of Parliament and the judiciary. The National Assembly, Senate, Economic and Social Council, Supreme Court of Appeal, Council of State and Court of Accounts each elect two commissioners and the speakers of the two Houses of Parliament each name one. The government co-opts only three. They all serve five-year terms.

Raison said: "We believe we can manage without a commission. One reason for preferring a crown-appointed registrar is that we consider that he can do the job better than a quango of an authority.

"There are advantages in having somebody in charge whom the public can identify. And it will be better still if he can play a sort of ombudsman role."

The Home Office Minister said the CNIL made no criticism of the way the British White Paper had tackled the problem of data privacy.

He added: "One reason why we have decided to legislate is that if we did not take action transborder flows of data could be affected. Anxiety about databanks is more general than specific. When people realise the truth they no longer worry about the threat from an imaginary big brother.

"That is why we in Britain can manage with a system which meets the commercial problem. We do not need a huge apparatus to handle it."

Raison stressed that, although the French had passed their data privacy law and set up the CNIL in 1978, the commission had only just completed registration of databanks.

Raison added: "I cannot tell you whether we shall be able to legislate during the coming session of Parliament. But we shall get on with it as soon as possible."

UK giant puts its DP on market

by John Kavanagh

ONE of the UK's top companies is muscling in on the computer industry with an international systems house which is already planning to expand into microcomputer retailing and peripheral distribution.

S. and W. Berisford, with interests ranging from commodity trading to food processing, insurance, tanning and the British Sugar Corporation, has formed Berisford Information Technology (BIT) from the group's computer services staff.

Most of these people, based in the UK, the US, the Netherlands and West Germany, will join BIT, making it instantly international.

In the UK the company aims to build up from its 20 staff to 60 people very quickly. It expects to be profitable within 12 months, even allowing for start-up costs, with 80% of its business coming from outside the group.

BIT's managing director is David Jones, who joined as head of computer services from consultants Nolan, Norton six months ago. He said BIT's main equipment supplier initially was ICL.

BIT is buying mainly System 25 and DRS 20 small computers through ICL's Trader Point organisation for systems houses. It is building accounting, order processing and payroll packages on these computers. It is also developing packages for specific industries on Computer Automation Syfa minicomputers.

PRICE . . . "Feet on the ground."

Triumph pulls out of direct sale

TRIUMPH ADLER, computer and office equipment subsidiary of German car giant Volkswagen, has set a new course in the UK. It is pulling out of direct sales altogether, leaving the field clear for its 130 Alpbatronic micro dealers.

The existing direct sales force is being turned over to dealer and end user support, with territory managers being appointed to look after dealers in particular areas of the country. "You still need feet on the ground," says David Price, Triumph Adler UK's national sales manager.

The package Triumph Adler is setting out with has new hardware with a well defined growth path; well supported software sold under the Triumph Adler label; hardware maintenance and field service; and training on hardware and software packages.

IBM accused defends self

by Howard Karten

EDWARD Mann, the defendant in the shootings at an IBM office building in Maryland, US last May, last week gained the right to represent himself in his trial for murder.

Circuit Court Judge John Miller allowed Mann to dismiss his defence attorney when his trial begins on December 6.

In a lengthy shooting spree last May 28, Mann allegedly killed three people and tried to kill 23 others. Although he has pleaded not guilty by reason of insanity, and has no legal background or experience, he told the judge he "has a strong belief in himself," stronger than his belief in his lawyers.

There is apparently at least one case on record in US judicial history in which a defendant attempted to defend himself, and later successfully appealed against a guilty verdict on the grounds that he was inadequately represented.

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Kevan Pearson doubts IBM's motives in its case against Hitachi and others

IBM's legal plots thicken

THE web of legal intrigue which has surrounded IBM almost since its inception became even more convoluted when IBM took out a civil damages suit against Hitachi, National Advanced Systems and National Semiconductor for alleged "unfair competition".

The significance of IBM's action is that the criminal case by the US Justice Department against Hitachi and Mitsubishi on the same matter is far from resolved. And IBM has seen fit to name both National Advanced Systems, which markets Hitachi computers in the West and its parent company National Semiconductor as co-defendants. The Justice Department has not charged either company in its criminal case.

One former senior official of NAS Europe described the action as "unprecedented". He said IBM had never, in his knowledge, initiated a case of this kind. It usually waited until the other party took out a suit against it, and then replied with its full, prodigious legal might.

This latest turn of events has created quite a stir, although IBM gave notice when the criminal charges were announced that a civil case was a possibility. It is difficult to see what IBM expects to gain by this action, unless it is to halt the growth which NAS has achieved since National Semiconductor saved it from the ashes of Itel, the leasing giant which crashed in 1979.

NAS is now the largest IBM plug-compatible supplier, in terms of the number of systems installed and sold. Although it makes the smaller machines which compete with the IBM 4300, its business is based on machines built by Hitachi. Its two top product ranges, the AS7000 and 9000 series, are both made by the Japanese conglomerate.

Significantly, NAS claims to have installed 55 AS 9000s, directly competitive with IBM's 3081, while industry estimates put IBM's installed base of 3081s at about 400. It has always been said that IBM would tolerate the PCMs taking about 8% of its sales but that anything above that would precipitate some hard competitive action by IBM. But NAS is nearing that 8% on its own, while Amdahl has just started to deliver its 3081 competitor – the 58/60.

It may be an uncharitable view to take, but there seems to be more than a hint of aggressive competition knocking in IBM's latest legal action.

It is also significant that IBM is no longer under the threat of anti-trust action in the US, following the dropping in January of the 13-year case against it. Certainly the PCM industry is claiming that IBM is a lot more aggressive in the market, and that it is acting in ways which were not allowed when the threat of imminent legal action under the anti-trust laws was present.

No-one claims that IBM is doing anything anti-competitive; they merely suggest that IBM is a very different company in 1982, and is adopting some different marketing tactics. IBM's civil case is seen in this light.

There is probably also a link between the civil case and the only remaining anti-trust suit against IBM – the one currently being conducted by the European Economic Community. The EEC's case is not the lumbering all-embracing giant of its former US Justice Department cousin: it is a highly specific, and much narrower beast.

A central point, and an essential element in IBM's defence, is the availability of technical information about interfaces. The EEC, on the basis of complaints received from Amdahl and Memorex, deems that IBM should release such information when products are announced. IBM contends that this information is proprietary.

One thing is clear. If this information were freely available, as the EEC wishes, the problem of maintaining compatibility would not arise. If the PCMs had the technical interface specifications and the necessary protocols, future compatibility would not be a major issue.

As one observer pointed out, IBM could lose the EEC case. After all, it has been stumped in its many attempts to wriggle out of it, despite using the full weight of its links with the Reagan administration. To lose the case would be a bitter blow to IBM's bid to contain the growth of the PCMs. It must therefore consider new ways of doing this and its legal action in the US looks like part of its new tactics.

IBM's civil case accuses the three defendants of "unfair competition" through the use of improperly obtained information. It demands five specific remedies: the defendant should be prevented from continuing to use unfairly obtained information; they should return to IBM any unfairly obtained documents or materials; they should be prevented from getting further confidential details; IBM should be awarded legal fees and damages; and an overseer should be appointed to ensure adherence to the above.

Clearly IBM has taken the view that Hitachi and the others are guilty before the Justice Department has finished its case. IBM claims that it became aware that "secret" documents were not where they should be in mid-1980, and became aware of Hitachi's complicity in late 1981.

The involvement of NAS and NatSemi is because of their marketing links with Hitachi, rather than because they have committed any technical misdemeanour. The Justice Department has not charged either of them.

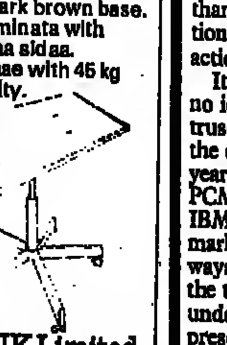
The ludicrous thing about the whole case is that it has been labelled a technological scandal. It is not. If it is anything – and it has not yet been proved that the alleged theft took place – it is a marketing scandal. Hitachi and Fujitsu, which is not at all involved in the issue, can match, and even surpass IBM in the technology stakes. It is in the final product specification that a knowledge of IBM's technology is required. Neither NAS nor Amdahl make carbon-copy IBM computers. They make computers which are capable of running IBM software.

Interestingly IBM has not named Mitsubishi in the civil suit, although it has been indicted by the US Justice Department. Presumably this results from the fact that Mitsubishi does not sell look-alike computers at the moment, it is merely preparing to get in on the act.

All in all the legal wrangling is not a clean or pleasant business, and it will not leave anyone unscathed – least of all IBM.

There has been a lot of anti-IBM publicity about the whole affair. There have been allegations that IBM set up the "scam" to make things look bad for the PCMs.

It has even been alleged that IBM controls the FBI. Whether or not this is true, IBM's reputation for fair play, never whiter than white even in the heat of anti-trust days, looks slightly tarnished.



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NEWS ANALYSIS

ICL's managing director spreads a little confidence, and enlarges on his ambitious plans. Kevin Cahill reports

The govt doesn't own us any more – Wilmot

WILMOT . . . "We have a problem with our cleverer people."

WHITHER ICL?

This, the most hackneyed question in the UK DP industry, was answered again with new clarity, greater depth, and some interesting new twists by ICL MD Robb Wilmot earlier this month.

In a lecture at the British Computer Society's London branch, part of the BCS' Silver Jubilee programme, Wilmot spread a little confidence about ICL's current financial year, which ends next week. "I am confident that our predictions . . . for profits and sales . . . will come true," he said.

He pointed out that at the end of the first six months' trading this year the company had not called on any of the government guarantees for additional bank lending of £150 million.

"We've had trouble getting this message through to financiers, but we'll keep telling them and telling them, and eventually we'll get through," promised Wilmot.

Earlier this week he met a group of key American stockbroking and financial analysts in New York. Although the precise purpose of the meeting was not disclosed, it is clear that a central topic was the company's financial recovery and its ambitious plans for the US market in the wake of the recent £15 million order from the New York State social services department.

Certainly ICL shares have recovered from their 8p drop in the wake of the company's inability to tender for the mainframe contract for the DVLC in Swansea. Brokers in London noted increased buying of ICL shares by US investors.

Wilmot dropped a hint about another "prime order" from New York soon, and followed this with some discussion about the use of CAFS (Content Addressable File Store) by UK police in two recent murder hunts. This led some of the audience to conclude that the forthcoming order would be from a police department.

The enhanced version of CAFS, called CAFS ISP, will be commercially available with 2900 series some time next year, said Wilmot.

He expects the company's mix of 55% UK sales to 45% export to change to 60% export against 40% UK. While he is relying on the US as a key future market, Wilmot said he hoped to have most of the company's manuals available in French, German and Spanish by next year. ICL is experimenting with computerised translation, and has achieved about 85% accuracy on a 20 second per page translation speed.

Wilmot said that it had been difficult to persuade foreign governments that ICL was no longer owned by the government, and was no longer relying on government funds.

"Only 7% of our business is now with the UK government," he said, but he agreed that there was a credibility problem when ICL lost all or part of a public sector contract like the DVLC project.

ICL's collaborative deal with Fujitsu was continuing to yield good results for both companies, according to Wilmot, who added that through the arrangement ICL engineers had access a year ago to 8,000-gate uncommitted logic arrays with gate delay times of 350 nanoseconds.

"This has given our engineers access to the leading edge of the most advanced silicon technology in the world," he said.

Coming closer to the concerns of some of his users, Wilmot said that development of VME/B and DME 2900, the two main operating systems for ICL equipment, would soon be frozen. "We have a problem with some of our cleverer people," he said. "When they've got an operating system stable for three months, they start hacking it up again."

Looking to the US market.

He added that ICL would soon publish 172 VME/B interfaces, and claimed that ICL was the first major computer company to publish such detailed interface information.

The core of Wilmot's strategy, and the approach being developed at ICL, is to deliver user transparent systems. "We will connect all our systems through information processing architecture so that a user gets a transparent transfer of data and applications," he said.

"With the adoption of the ECMA local area network standard there will be four chip suppliers in Europe for the LAN standard protocols. This will mean less choice in protocols, but will help to remove the chaos from infinite variety."

Moving on to the DRS distributed intelligence system, which forms the main element of the recent order from the New York State, Wilmot said that he thought that more and more, the DRS would be used to "facing both ways." The DRS, according to Wilmot, gives the CP/M operating system office automation and central processing.

Although this statement would appear to endow the machine with features it does not possess, Wilmot is increasingly conscious of the need to offer the customer a machine which can face inwards to the central processor or database and can link into SNA, IBM's distributed processing architecture.

At the same time, he recognises the need for a machine which the local user can run independently.

CAFS, along with intelligent discs which the user can interrogate in his own language, are only two of the major products scheduled for relaunch and massive support in 1983.

Wilmot revealed that work was well advanced on a workstation array processor, with the pilot architecture in the "run up" stage. Few computer companies have hinted at developments in desktop array processors.

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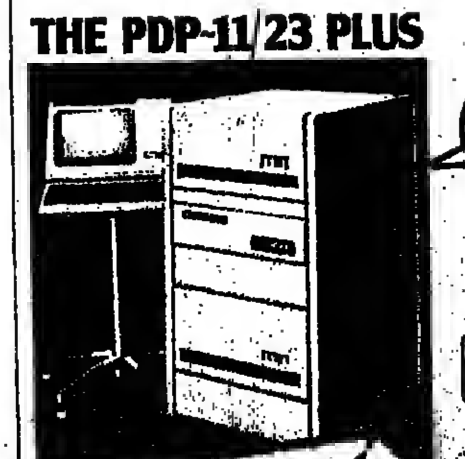

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SOFTWARE FILE

IDMS users offered online maintenance

IT IS odd that no-one has tackled the problem of online maintenance in an environment where the problems are usually just that: online.

Writing one-off programs for ad hoc maintenance has always been a time-consuming but necessary evil, for both online or batch systems. Bugs created in setting up a system can sit there for years, because the applications' update programs either never access that particular field or check its contents, until that 100-1 condition arises and the system crashes.

In a database system such as IDMS, the problem is made worse by the rigid structuring of sets and record links and, where a change involves altering the structure itself, there is little alternative to writing a specialist program to do it.

ICL offers a two-stage method of dealing with alterations to IDMS systems: the Data Display utility to examine the database contents, the Pfix utility, which runs in batch mode, to correct the fault.

GREEN . . . *IBM version?*

Gresham Computer Services, a software house which specialises in products for ICL users, has recently launched an online IDMS and IDMS-X maintenance system called Altadats, which performs the whole operation in one go from a MAC terminal.

Using the normal IDMS programming commands, Altadata allows the user to navigate around the database, and to make amendments to the data or structure where required. It can display field contents in various formats, display or hexadecimal for exsmple, and can also connect or disconnect records or otherwise modify sets, within a specified subschema.

"The main use we see for Altadata is in maintaining the database: for looking at it and making any detail amendments to data and structure," said Sid Green, managing director of Gresham Computer Services. "It can also be used, however, to log into a new subschema and generate test data for parts of the database that don't yet exist."

Green was cagey about exact details of Altadata's construction, saying that it is "written in Cobol plua a few secret bits," but he said that the product has been received with such enthusiasm that an IBM version is now under consideration, although he is more interested in an ME29 version first.

Four firm orders were placed for the £6,000 system in the month following its launch.

Cullinane, specialist in the IBM versions of IDMS, offers the facility to change data content and structure online, but within the confines of set programming procedures. Users can change the structure of the database with the Online Data Dictionary utility, but would have to generate their own program using an ADS-Online dialogue to amend data. This would take about 10-15 minutes.

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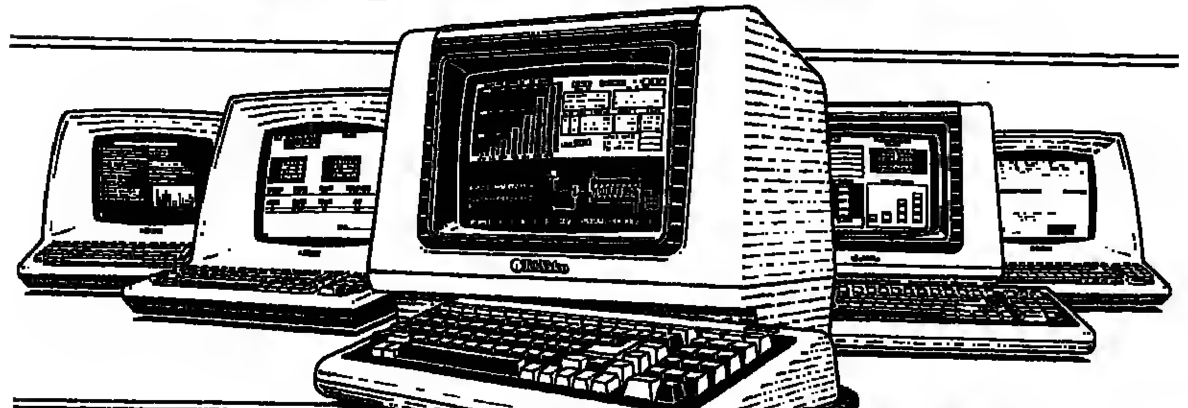

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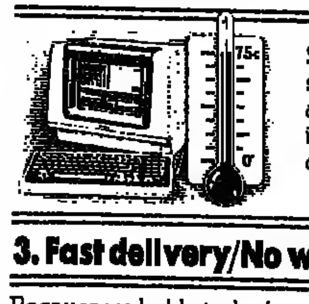

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BROWN . . . *"You could say we're jumping on all the bandwagons."*

Naked Mini clothed in a sophisticated OS

PUTTING the "cart before the 'os'" is just what minicomputer manufacturer Computer Automation has done in the interest of progress.

Newly released Cartos, Computer Automation Real Time Operating System, is far more thsn a mere opereting system; it is the vehicle to take CA's Naked Mini range into the most sophisticated area of the OEM market.

Written in the high-level language BCPL, Cartos also supports programs in BCPL as well as Pascal, Fortran and Coral 66. Although C is also running on Cartos internally at CA, it will not be generally released until the New Year.

Cartos runs on CA's Series 5 machines, but can simulate a development environment for any of the Naked Mini range, so that programs produced are portable. It also gives the Series 5 virtual machine capabilities by incorporating demand-paging techniques with advanced exception handling and security facilities.

"We have tried to strike a balance between real time end protection and have tried to optimise the two, but with a tendency towards real time response," said Mike Brown, European General Manager of CA. "You could say we're four years late in doing this, but there are a lot of modern programming techniques and hardware developments included in Cartos because we have waited until now."

According to Brown, the use of a block structured high-level language makes the system easily changeable, so that the user can write custom-built parts such as device drivers simply. This makes the Series 5 particularly suited to its intended OEM market of suppliers aiming at industrial control, computer-aided design and machine or instrumental control applications, as do its minimal storage requirements.

"Companies are likely to move to Cartos for automating whole factories," said Brown. "We have tried to incorporate the best features of other online systems and to include promising developments.

"Cartos currently supports the Cambridge Ring, and the next release will also cover X25 and Ethernet — you could say we're jumping on all the bandwagons."

Cartos software is priced at £3,500, but when coupled with an average-sized Series 5 mini development system, would be about £40,000 for hardware and software combined.

Real beginners can tap Sequoia's full power

USERS of CMC's 32-bit Sequoia supermini, launched in January this year, can now tap its full power using the All application generator.

All, Application Language Liberator, newly released by CMC is designed for use by non-DP staff and takes advantage of the unusual architecture of the Sequoia which CMC claims gives mainframe performance.

The native operating system is an upgrade of that of the Reality minicomputer, which offers an English language inquiry utility, but does not fully exploit Sequoia.

"All on Sequoia represents the next logical step," said Jerry Causley, managing director of CMC. "It not only enables, it encourages the user to become his own systems analyst."

Written in Assembler, All consists of a set of macros permanently resident in memory which govern machine-level routines to handle program functions. It is split into two products: a generation module, which guides the user by use of menu screens through the setting up of a system, and the execution module to run it.

CMC quotes an example of the economical use of programming statements using All in terms of a general ledger journal entry program, which took 464 lines of Basic code. This was reduced to 74 All-prompted logic statements.

The only technical terms used when setting up an All environment are "file" and "field", and rigidly defined structures are unnecessary. All data fields are held in global dictionary, which also includes the Reality English enquiry and report generator facility.

Software File is compiled by Maggie McLening.

COMPANY NEWS

BIS profit jumps by 40%

ONE of the fastest growing and still private computer companies in the UK, BIS, has just produced its annual accounts showing turnover 63% up on the previous year, and profits up by 40%.

The group, which now employs 620 people worldwide and which includes a 76% share in the Mackintosh consulting group, produced turnover for the year 1981-82 of £14.14 million compared with £8.62 million the previous year.

Profits showed a similar rise from £505,000 after tax to £894,000 after tax for 1981-82.

Despite spending over £1.2 million on development and investment (all of which was written off as spent rather than kept in the books as an asset) the group ended the year with an overdraft and bank loans of £394,000, but a total in cash assets of £1.8 million.

According to the report, 53.6% of BIS turnover came from banking and over 50% of sales were made abroad.

The group has already picked up two Queen's Awards to Industry for export achievement and there is every sign that this year BIS will make the hat-trick with a third award.

With a year like that behind the group the obvious problem facing chairman Brian Allison is how to maintain that growth.

He says: "We have defined our industry very broadly . . . and are developing a series of new products and services, many of which are based on research among our prospects and customers, especially in banking finance and electronics."

He continues: "This future product strategy together with our deliberate policy of expansion in North America, the Pacific Rim and the Persian Gulf, should enable the group to top a turnover of £20 million this year."

GRAHAM . . . *Heads computer and information systems division.*

Allison's goal for the late Eighties is a £50 million turnover company. The largest division within BIS is the computer and information systems companies headed up by Roger Graham. These companies account for over £9 million of the £14 million turnover and for almost 400 out of the 700 staff currently working for BIS.

The three key companies in the group are BIS Software, BIS Applied Systems (one of the best-known training companies in the UK) and BIS Margaux.

According to Graham, these three increased turnover by 37% last year, and pushed profit up by 46%.

The same three companies accounted for £1 million of the entire group's £1.2 million R&D expenditure, much of it on the Midas banking package. This package, developed by BIS and sold to banks worldwide, is now among the top five best-selling products of all time in the software industry.

The directors of the group, which is entirely owned by the directors and staff, remain coy on any mention of the group going public.

SHARES TABLE

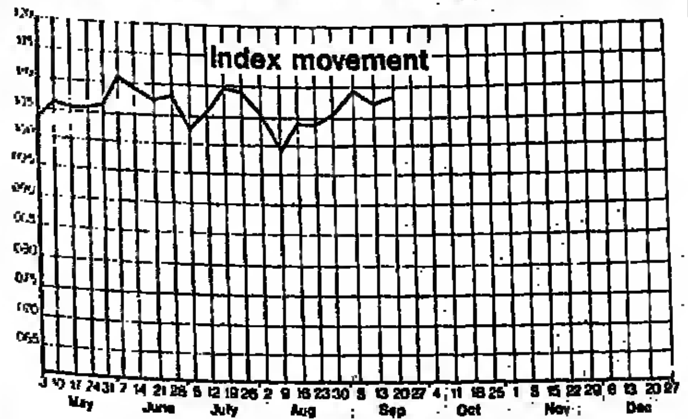
The shares table, which is specially compiled for Computer Weekly, shows selected computer companies that reflect the state of the computer industry.

Date 28/9/82 Index 166.43 Change +1.04

1982		London Stock Exchange	Pence		1982		US Stock	$	
High	Low	Stock	Price	C'nge	High	Low	Stock	Price	C'nge
		ACT (App Com) (25p)	190	–			Amdahl	27	– ¾
		BOC Int. (25p)	168	– 8			Apple Inc	17¾	– 1
		E. Bov Kent (25p)	30	– ½			Auto Data Pro	24	– 2⅛
		Chubb (20p)	107	– 3			Burroughs	38¼	– 1½
		Cole Group (25p)	71	–			Comp Auto	10⅜	–
		C.A.S.E. (20p)	203	–69			Comp Sciences	16¼	+ ¾
		De La Rue (25p)	498	+18			Comshare	12	–
		Excel (25p)	333	+ 3			Control Data	29⅞	– 2¼
		Ferranti (50p)	480	+28			Cray Research	24½	–
		GEC (25p)	1225	+61			Data General	28	– 1¾
		ICL (25p)	64	+ 3			Datapoint	18	– 1⅜
		Kalamazoo (10p)	38	–			Dataproducts	23⅞	– ¾
		Kode Int (25p)	288	+10			Digital Equip	85½	– ¾
		Memec (10p)	295	–10			Elec Data Sys	23	– 1½
		Muirhead (25p)	174	+ 4			Gen Automation	3½	–
		N'market (1981) (£.05)	284	+ 7			Harris	35	+ 3½
		Norsk Data	710	– 8			Hewlett-Packard	63½	– 1
		Office & Elect (25p)	460	+28			Honeywell	82	– 2⅛
		Philips Lamp (fl10)	666	+26			Intel	25	+ ⅛
		Plessey (50p)	977	+22			IBM	75¼	+ 2¾
		Quest Auto (10p)	32	– 1			Litton Ind	49⅝	+ ⅛
		Racal Elect (25p)	606	+28			MDS (Mohawk D)	15	– ¼
		Rediffusion (25p)	282	+ 7			MSA (Mgmnt Sci)	26½	–
		Thorn-EMI (25p)	387	– 1			Mngmnt Assist	8⅛	– 1⅛
		UCAT (50p)	93	+ 2			Modular	8½	+ ⅛
		OTHER MARKETS*					Motorola	74	– 6⅝
		Bus Comp (10p)	68	– 2			National Semi	17⅝	– 2⅛
		Consult (C&F) (10p)	186	+20			NCR	65⅝	– 2⅛
		Int'europe Tech (20p)	107	+ 4			Perkin-Elmer	23	+ ⅜
		Ig Tech (25p)	247	– 1			Prime	25⅝	– 1⅝
		Knight (5p)	58	–			Raytheon	43⅝	– 2
		Miles 33 (10p)	150	– 4			Signal	19½	– ¾
		NMW (£1)	120½	+ 4½			Sperry Corp	24½	–
		Rolfe & Nolan (10p)	104	–			Storage Tech	20½	+ ⅜
		ScanData (10p)	100	–			Tandem	23½	–
		Star Comp (10p)	250	–			Tandy	28½	– 2
		Trident Comp (10p)	90	– 3			Texas Inst	87¼	– 3½
		Zygal Dyn (5p)	85	–10			Tymshare	20	– ⅛
							Wang Lab B	38½	– 1⅛
							Wyly	10½	– ½

The table shows the closing prices in London on Thursday and in America on Wednesday. The Share Index is based on the prices of the UK companies in the table. Data for Highs and Lows was not available this week.

**Shares traded on the Unlisted Securities Market or under Rule 163(2)(a).*



Company News is compiled by Kevin Cahill

CIS turns over £1.4m in first year of trading

FORMED only a year ago, Cambridge Interactive Systems (Products) has reported turnover of £1.4 million for its first full year trading.

The company, which markets computer-aided manufacturing and computer-aided design equipment, was set up to separate the development and sales activities within the Cambridge group of companies.

In the company's first annual report, managing director Nigel Payne predicts that the turnover of the company will rise to £2 million.

And CIS has made a profit. For the year to March 31 1982 it was £116,859, reduced by taxation to £57,030.

For the first six months of its existence the company employed just two people, but numbers have now risen to nine with further recruitment planned as sales expand.

The primary impetus for forming CIS came in the course of 1981, when pressure to commercialise the development and R&D activity of the Cambridge group grew as a result of increasing sales.

Finance for the original development company was first provided by the founders, who mortgaged their homes, and through self-funding from sales.

The key trading company, CIS Products, has been self-funded apart from a £125,000 investment by Rediffusion, which gave that company 20% of CIS. The deal carries with it additional drawing rights, which Payne says will provide a basis for faster expansion than would otherwise have been possible.

The two companies are also collaborating on a number of other products, including a number in the robotics area.

CIS has formed a close marketing link with Prime UK which has guaranteed £100,000 of revenue to CIS, based on the marketing of the CIS CAD/CAM software. The CIS software has also been installed on the Robary bureau.

CIS products, although available on a variety of hardware, remain closely linked to the Prime equipment on which they are developed.

Since the annual report was written, Payne says, the company has been doing even better than expected, and will exceed the £2 million sales forecast. He also noted that for the time being the company expected to produce most of its own financing, and he did not foresee a public flotation in the near future.

PAYNE . . . *Doing even better since the company's first annual report.*

COMPUTERS & VIDEO CONVERGENCE

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Rod Daynes

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Motorola to bring chip design to corner shop

US semiconductor giant Motorola, fresh from last month's second source gate array agreement with National Semiconductor, is to put o third link in its semicustom design chain.

As well as providing users with the means to access Motorola's own CAD system, but really leaving them to do their own design with the CAD tools, Motorola is looking at setting up a distributor-like network of "corner shops" where customers can take their requirements and have gate array design done for them on the Motorola system.

Motorols's approach is generally that customers should design their own chips. "They are the ones who know what it is supposed to do," says Bill Bootiman, Motorola's European gate array marketing manager. "It avoids lots of problems and gives us a very low failure rate," he adds.

But there are a lot of people who will not want, or be able, to do the CAD needed to lay out gate arrays effectively themselves. "If we ignore those people, then we'll lose half the market," says Bootiman. Motorola could provide the service itself, though it would mean devoting large numbers of staff to doing the customers' designs, and it prefers not to get involved at that level.

Bootiman says that Motorola would rather establish a network of design shops, on the lines of a product distributor network, to look after these low volume buyers. These CAD shops will access the Motorola design system just as a normal customer would, but will do the necessary design work with the computer tools for the end customer.

Financial arrangements are likely to include the design shop taking a percentage of the final order value.

Motorola's gate arrays use a cell approach – circuit designs are split up into standard functions available in the Macrocell library. These are laid out on an uncommitted Macrocell array and connected together as needed. The whole process has now become so complicated, in part because of the increasing size of the arrays, that the design is much better done by computer.

The Motorola CAD system was built up from various standard packages and forged into an integrated suite by Motorola. As well as laying out the cells and routing the metal interconnections in an optimum way, it allows testing and simulation of the logic.

It will also check a design for testability, listing faults that cannot be detected by the test programmes the customer supplies along with his logic design.

Parts of the array – or even the whole thing for that matter – can be laid out by band, but Motorola does not recommend it. "The logic verification part of the CAD system is especially needed when there has been manual intervention," says Bootiman. "Most faults arise when people think they can do it better then the CAD system. Usually they can't."

To get into the system, which runs on Motorola's various computers in its Phoenix headquarters, the customer needs a minimum of a printing terminal with a modem or acoustic coupler. With this he contacts a local Motorola office and is connected to the US computers through Motorola's own communications network.

Graphics can be attached, but are not needed. "They can be very useful," says Bootiman, "but they are not necessary, and are very expensive."

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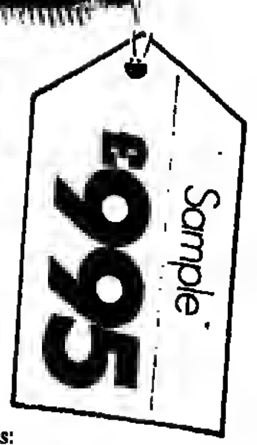

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Fortune signs up first UK distributor

LAST year's highest flying microcomputer start-up company, Fortune Systems, is starting its UK marketing push. It has already appointed its first distributor here, IBR in Reading, and is about to finalise deals with two more.

Volume shipments of the 32:16, its 68000-based Unix machine, are starting this month with about 30 systems, rising to 50 next month and ramping up from there. End users should get their hands on systems by early November, with the first units going to dealers and software houses for evaluation.

According to David Van Den Berg, Fortune's vice-president of marketing, the UK will make up something like 30% of the company's business. Over the next year this should represent 15-20,000 systems. And because of the importance of the market to Fortune, it plans to keep a close watch on the dealers its distributors appoint.

"For the distributors we are looking for good, solid, financially sound companies successful at selling micros," says Bill MacPherson, director of UK marketing and sales. Distributors are expected to commit to 500 systems a year, putting the deals at about £5 million each.

"We will also be involved in the selection and monitoring of the dealers," adds MacPherson. Fortune will be supporting them technically on the hardware and software and with marketing.

As well as this traditional selling route, Fortune will be treading the paths of [illegible] through hardware OEMs and own-label brands, through software houses, and directly to [illegible] end users.

Software specifically aimed at the UK market is still thin on the ground, though there is no shortage of US software to run under the 32:16's "friendly Fortune shell" – the interface protecting the business user from the Unix kernel.

"There are about 100 companies coming up to us each month saying please let us put our software in your box," claims Van Den Berg.

Fortune set out to produce a really commercially usable Unix and feels that it is perhaps a year ahead of anyone else. It is not [illegible] for developers – but for the real business user who wants to switch on and run an application.

Software tool aims to expand Forth market

CHERTSEY-BASED software house Computer Solutions is hoping to expand the market for the Forth programming language through a development and debugging tool See-flow.

It is written in Forth, to run on Forth systems, and depends for its working on the nature of the language. It traces through programs, using a reverse video or some other special character to mark its progress, while displaying in a separate screen area the contents of the stack, values of variables or the state of I/O lines.

"It's very like the old bouncing ball along the words of a song," says See-flow author and Computer Solutions managing director Chris Stephens. "If you lay out the program well you can see how the logic works by looking at the pattern as the blob traces quickly through a program segment. In this way it is equivalent to a software logic state analyser.

"You can also run See-flow slowly, or single-step it, to look at portions in great detail," he adds. Users can be selective in this, setting the tool to skip parts of programs that are not of interest, or have already been debugged.

Stephens feels that Forth as a language is very good for program development, with relatively easy optimisation for speed, space or development time. But it has increased in use by word of mouth rather than by active marketing, and Stephens hopes that his See-flow aid will build more bridges to gain acceptance for Forth.

He reckons that See-flow, which costs £90 for the source code and needs routines to be written to interface to the particular VDU used, will maybe speed up things by a factor of two or three for learners. For experts he estimates a 25% speed increase.

Micro News is compiled by Robert Parry

Outgrowing your mainframe? Want to offload the overload?

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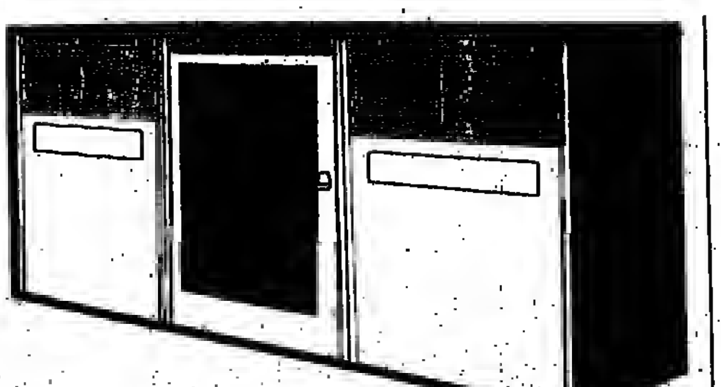

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PLATFORM

Tandy packs a punch in high street market

MURRAY . . . Tandy is the biggest chain of shops on earth.

IT'S hard to avoid Tandy nowadays.

There are over 8,000 Radio Shack and Tandy computer stores scattered around the world.

According to *Michael Murray*, the American joint managing director of Tandy's UK operation, this makes the corporation the biggest chain of shops on earth. And it is still growing fast, filled mostly by the steady 25% to 30% a year growth rate in its computer product lines.

According to *Murray*, about 30% of Tandy's annual revenues come from computer products, a significant shift from less than 1% a decade ago.

Worldwide, this gives Tandy a sales revenue of $660 million from computer sales. Of that total, some thing like £8.4 million was generated in the UK, where the company is now in the middle of a rapid expansion of its computer centre operation.

Murray says that he increased the number of outlets last year by 45, and carefully emphasises that Tandy is not a franchise operation. "Tandy began in the UK in 1973 as a franchising operation, but in 1975 all the franchises were bought back."

According to *Murray* there are now only two sorts of Tandy store in the UK, about 80 authorised dealers and 217 company-owned stores.

Within the company-owned chain, where expansion is concentrated, there are three types of store.

Tandy sells some computer products in all its Radio Shack stores, but in certain cases has added a complete computer centre in-store. More recently, it has set up a chain of computer centres, which sell nothing but Tandy computer systems and peripherals.

There are 17 computer centres in the UK so far, with another 30 to add in 1982-83.

Most of Tandy's products originate in the US, about 40% of them manufactured by Tandy itself, 50% being bought in from US sources and 10% coming from places like Japan and the Far East.

The PC2 pocket computer offered by Tandy comes from Sharp, obviously sourced in Japan, and most of the eight-bit Z80-based Model III computers sold in the EEC are built in France in a joint venture with French electronics firm Matra.

Despite its image as a personal or hobbyist computer supplier, Tandy is making a determined bid to crack the business system market.

Spearheading this drive on the corporate and small business user is the company's TRS 80 Model 16 computer. This model, launched in the US a few months ago and to go on sale in the UK in November, is based on the Motorola 6800 16/32-bit microprocessor.

Using a Z80A microprocessor to control input/output routines, the machine will accept 16-bit data and process it as 32-bit words, making the machine cycles very much faster than the current range of a eight-bit machine.

This machine, which will run most of the software developed for the eight-bit TRS 80 model III, poses a major threat to eight-bit Apple III, which has anyhow faced market resistance in Europe.

By the end of next year, Tandy product lines, currently 250 in number, will be offering users 500 mostly software products.

The company will offer a Cobol source generator on its micros which will be aimed at system houses.

Which all adds up to an awful lot of marketing muscle — right where Tandy has proved that much of the market is, in the high street.

PROFILE

DP managers get more vulnerable as technology change

In the first of two articles, Ron Yearsley writes about the changing role of the DP manager.

RECENTLY *The Economist* gave four essential recommendations for companies hoping to survive what the journal saw as an almost chronic worldwide recession.

First, decentralise the company; second, maintain a tight low-geared strong balance sheet plus a cash rich financial policy; third, become more market-oriented; and finally make sure staff understand the value of having a job. The last two philosophical statements could affect the career and lifestyle of data processing managers and expose them to change as never before.

In some cases the DPM's job has already been affected dramatically in the last few years by significant changes in his company's organisation and culture. The DPM has also become more vulnerable and more exposed as technology has advanced.

The DPM has become exposed because of vigorous attempts by zealous micro salesmen to sell computing systems at modest prices, often with packaged software, to the managers in the trading division of his firm.

These line managers will find computing concepts easy to grasp. The arrival of the micro has precipitated what I have called the "Apple II Syndrome".

Senior managers who would normally abhor computing have learnt to understand the concepts often with no more than a weekend's work, taking the machine and texts to their own homes in the company Rover!

With a well-presented guide they will have understood basic programming and maybe done meaningful work after only four hours' tuition.

The computer manager is in a sensitive position — he needs to be careful not to oppose cultural change too vigorously and so appear to be a kind of latter-day corporate dinosaur.

The micro revolution is opening minds where manufacturers' courses and those of others have often failed over the years. It is creating awareness of technology and inducing a feeling of shame in the less numerate, replacing arrogant ignorance with some humility.

In the last two years, in part precipitated by the economic recession, a close look at central overheads and corporate central costs has resulted in a radical change in company philosophy.

The "small is beautiful" concept blowing vigorously through boardrooms and Western governments is becoming a fashionable Holy Grail.

I know at least a dozen companies which in the last 12 months have changed dramatically the way they control the economy of the company, with significant effects on the computer manager and his department, both in terms of careers and sphere of influence. Some lost their jobs!

If the group chief executive now feels that the operating managing directors are to run their own businesses as trading companies in their own right and have total responsibility for profit and loss, they must also have responsibility for costs which includes computing and many other former central services.

It is not unnatural that the enlightened senior managers in the divisions, educated already by the influence of micros, demand their own computer facilities of various shades.

The dangers are obvious to the trained eye of the DPM — a veritable Tower of Babel of machines; languages and oper systems offering no chance f much dreamed of compa network and compatibility d moo systems.

The prudent DPM, how swings with the pendu knowing it will return in tim restore some of his influence.

The other trend which he encourage a greater awarene senior management of their to understand more about co ters is seen in primary a secondary schools. The childr these executives are learning about computing in their schools.

The government plans to i duce computer teaching to all schools. This I have dubbed "Emma Syndrome". The ma manager is exposed to concep his childs' understanding of c puting concepts. He now feels should try to understand the skills, learning from his da Emma who, although only is able to use a micro for plannin family budget.

It is significant that many signments conducted by my c pany into corporate com philosophy in the last two have in part resulted in the for total acceptance by the board of directors for some computer appreciation where many years ago this have been considered wasting.

As an organisation training field, we are s nificant number of managers attending courses. This has been since the early 1960s. Sen could see this as an ero influence.

Ron Yea
Director, BIS Appli

DOWNTIME

Carrying on a blessed tradition

WHEN I had the good fortune to be employed by Europe's leading computer company (oh no, not another one), there was an apparent trend towards employing two types of person.

The first type had to have a silly name — Pratt, Bullock, etc, and the second had to have a name which didn't actually have to be silly in itself, but which was similar, if not identical to, the names of as many other employees as possible.

The second requirement could well have been an attempt to make the ineffective middle management, for which the company is justly famous, appear slightly more forceful. One operations manager explained to me that there were three operators called Andy on one shift in order to multiply the chances of someone taking notice of him should he attempt to gain their attention.

Sadly, the decline of this Great British Institution has meant that these criteria have gone by the board — when you only have two employees, the chances of one of them having a really silly name are greatly reduced, and the scope for duplication is almost non-existent.

Three cheers then for California-based Topaz, manufacturers of power conditioning equipment, which appears to be carrying on where my old firm left off.

A new sales office has just been opened in Singapore, and one can only hope that the regional manager has a large number of relatives. His name?

A. Choo. Bless you.

Racey idea

AT a dead end in your attempts to get better performance out of your mainframe? Try a little lateral thinking, and apply techniques proven in the design of Formula 1 racing cars.

Not for a moment am I suggesting anything as inherently specious as the installation of flat 12 engines in place of your old V8 processors.

But a new product from Uniroyal Plastics Europe could change the face of computing as we know it. Royalite R60 is a thermosplastic sheet which its manufacturer claims will have major business potential in the computer industry. Due to its enhanced rigidity, Royalite permits the construction of thinner panels for computer cabinets, thus saving weight.

Royalite may not actually make your processor go faster, but it could well make it handle better at speed by reducing the unsprung weight.

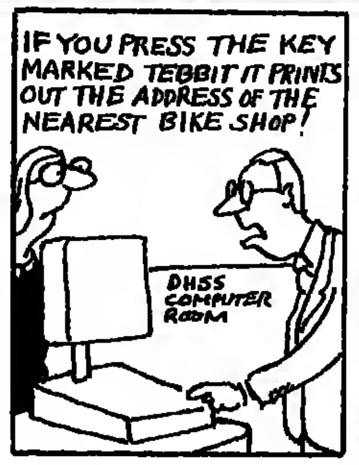
That really takes the cake...

"EVERY morning between 9 o'clock and 10.30, American John Coyne and Dutchman Helmut Freericks, founders of The MicroComputer Business, battle against each other in the martial arts. They use fist, stave and sword; no holds barred."

So begins a corporate handout from the company in question.

So who is running the show when the two bosses are doing their damnest to kill each other, presumably in an attempt to get first choice of the cream cakes when the tea trolley comes round at 10.30?

Should I inform my editor that I wasn't going to start work until 10.30 each morning, I would need to have some little experience in the martial arts myself.



IF YOU PRESS THE KEY MARKED TEBBIT IT PRINTS OUT THE ADDRESS OF THE NEAREST BIKE SHOP!
DHSS COMPUTER ROOM

Credit where it's due

Our comping correspondent writes:

Dear Chad,

Access and Barclaycard are indeed talking to eachother (Downtime, September 9) through the credit card holder who is acting as a programmable logic controller or PLC. Many companies, including banks, have recently become PLCs.

The PLC spreads his credit card usage more or less evenly between Access and Barclaycard, arranging the payment dates to fall two weeks apart if possible. When the Barclaycard becomes due, cash from Access to pay it versa.

This increases usage of cards and so ups the credit li has been calculated that fo tended credit this nearly halves effective interest rate from APR, but my arithmetic isn't it.

Yours in de
MICK AWFU

Stony Cross Campsite
New Forest

PS Computer Weekly is very next to the skin on a chilly

Ch

Some guys have all the luck

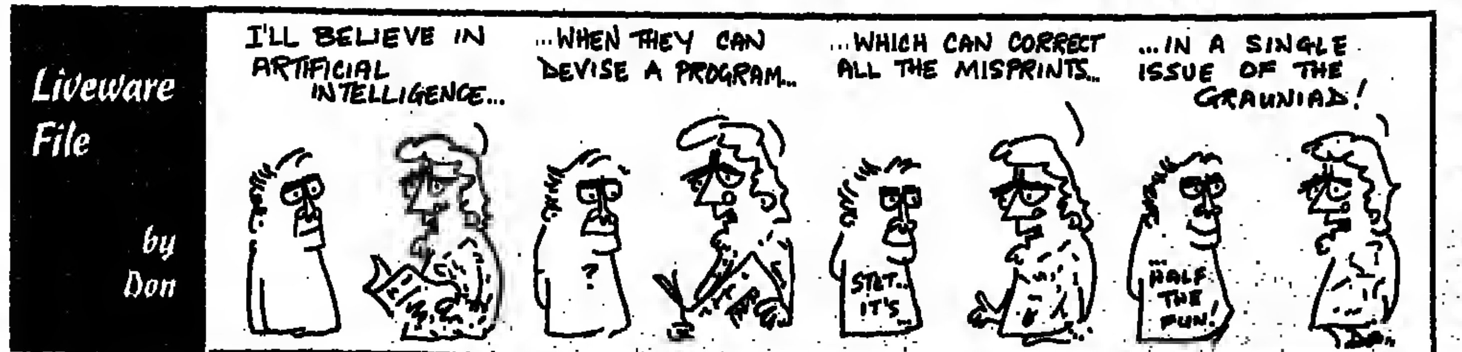
MANY are the Computer Weekly journalists who have been broken on the wheel for failing to pick up a hot news story before the competition. There were, therefore, anxious shufflings and hurried consultations of the Boy's Own Book of Excuses when a rival scooped the world with a report of Computer Automation's new operating system, Cartos.

However, it transpires that the rival hack accidentally turned up at CA's HQ in Hertfordshire a week early for the Press conference announcing the new product. CA displayed remarkable compassion: "We hadn't got the heart to turn him away empty-handed after coming all that way," said a spokesman, "so we told him all about Cartos."

10 YEARS AG

From Computer Weekly of Se tember 28, 1972

IN two contrasting moves, IB quietly raised the rental and p chase prices on nearly al systems, while Digital Equipme lowered tariffs on the DE System 10, the largest mode its range . . . Peripheral equ ment and recording head man facturer Data Recording Inst ment lost its place in the Kl empire when it was announced that ICL's 70% shareholding the company had been sold Grundy . . . Wang laborato the US calculator manufactur announced a new word proce sing system . . . Three Interd 2100 key-to-disc data preparati systems, estimated to be wor about £300,000, were the larg items of computer equipme be bought by the Departme the Environment for its Swan DVLC.



Liveware File
by Don
I'LL BELIEVE IN ARTIFICIAL INTELLIGENCE...
...WHEN THEY CAN DEVISE A PROGRAM...
...WHICH CAN CORRECT ALL THE MISPRINTS...
...IN A SINGLE ISSUE OF THE GRAUNIAD!
STET... IT'S...
HALF THE FUN!

ComputerWeekly
Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS
Thursday, September 30, 1982

Govt dithers over £350 million

ONE of the easiest ways of avoiding blame for anything is to follow the time-honoured maxim: "In case of doubt, do nothing."

This appears to be precisely what the government is doing. The Alvey report currently sitting on Kenneth Baker's desk calls for something like £350 million to be spent on research and development.

If Britain fails to act quickly enough to respond to the Japanese fifth generation computer challenge which the Alvey report is addressing, then although we may in the longer term be worse off, things would still look better in the shorter term. That is, better for the present Conservative government, because by the next general election it could not be accused of acting rashly and spending taxpayers' money.

One of the premises of the classical free-market forces argument to which the government subscribes is that an economic cycle eventually has to bottom out as people find opportunities created by things like new technology.

But economic cycles never follow the same pattern and unless a solid infrastructure is built as a foundation for economic recovery, we will only see a short-lived boom followed by a deeper slump.

A major element of that infrastructure is our educational system. Realising the government's distaste for putting taxpayers' money into public enterprise, the Alvey report lays heavy emphasis on academic research funded on an equal basis by government and industry.

While the British government dithers on £350 million the French are pushing ahead with over £10 billion worth of public money over the next five years, most of which will go to French industry direct — something which free market adherents will no doubt regard as reckless in the extreme.

The type of expenditure advocated by Alvey is totally different in its effect. It does not seek to give an unfair competitive advantage to British enterprise. Academics are free to join the brain drain or to entice foreign companies to set up shop in Britain by their presence.

Many industrialists will disagree with emphasis on university research in the Alvey report. But it is now time for Kenneth Baker to respond to the Alvey proposals so that the issues can be aired in public throughout the industry rather than in the confines of Whitehall's political machinations.

In praise of IT

THIS week Computer Weekly does the unfashionable thing and actually puts in a good word for Information Technology Year.

IT82 is one of those easy public targets for derision, just like Margaret Thatcher, Tony Benn, John McEnroe and Princess Anne.

But the knocks can go too far. This week the Ergonomics Society debated the motion that IT82 was "misguided in that it fails sufficiently to encourage an ergonomic approach to IT, its use, installation and consequences for work practice and job design".

The IT82 campaign's staff's answer to that can only be, "Guilty as charged." But the Ergonomics Society — and anyone else accusing IT82 of failing to encourage the use of BSI-approved plugs, UK standard paper widths, X25 or whatever — has missed the point.

For IT82's aim is to increase public awareness of information technology. A Mori poll at the start of the year showed that 98% of the population had not the slightest inkling of what information technology was all about. Clearly the IT82 campaign has its work cut out simply to meet its original aim, let alone educate the man in the street and his wife and children on the joys of ergonomically-designed equipment.

Another Mori poll will be taken at the end of the year to give a rough idea of the success of IT82. Let it be judged on that — and on whether UK companies become more efficient as a result of its work — rather than on whether it has taken into account the interests of extremely specialised groups such as the Ergonomics Society, no matter how important their work may be.

1984 and all that

THIS week's example of the strange things people say about computers was sent in by Nicholas Cooper of Norwich, who wins £5.

Basic is a computer programming language which is probably the nearest to English you can get.

BBC Radio 4

LETTERS

Codasyl and screen management

I WAS pleased to see your article (CW, August 19) on Codasyl work on screen management. It captures the flavour of the work quite well. However, some statements that you make could give a misleading impression to readers.

You mention forms being manipulated by program statements such as OPEN FORM, CLOSE FORM and READ FORM. The direction given at the May Codasyl meeting is that screen management syntax for Cobol should be taken from the communications facility, ie SEND and RECEIVE. This is not meant to imply that in order to provide screen management in Cobol, an implementor must also provide the communications facility. This is not the intention.

You mention the two ways of implementing the SMF (Screen Management Facility) that were discussed in the working paper (full compilation or run-time "binding"). I do not think it true to say that either will prove less popular with Codasyl. Time will tell but it is the current intention of SMTG (Screen Management Task Group) to allow for both techniques.

It appears contradictory to say that "the whole idea of (the) SMF is to ignore the screen size and enable the programmer to make the best use of what screen facilities are available". The SMF is being designed as a tool to allow programmers to manage screens and to allow screen designers (often the same person) to design a good screen dialogue. It is the intention of SMTG to allow for portability of programs that use the SMF across different terminal types, often with differing screen sizes.

However, it is beyond the current state of computing knowledge to ensure that a good human interface remains after the movement of a form from one terminal to another. A key advantage from the split between a Screen Description Language and a Screen Manipulation Language is that the screen description can be altered without requiring an alteration to the program logic that does the data processing.

Finally, there are some features in the SMF that you do not mention but which are worthy of note. Error reporting is consistent no matter whether the error is detected by the validation in the screen description language or by normal Cobol processing. Also, SMTG are looking to provide a Help facility in the ISDL (Independent Screen Description Language).

The opinions expressed above are my own and do not necessarily reflect the composite view of SMTG.

TOM POVEY
Past vice-president, SMTG
Dunblane, Perthshire.

Irrelevant disasters

WITH reference to John Kavanagh's article on contingency planning (CW, August 26), I wonder whether UCSL's Mr Hitchcock knows what he is talking about. His statement that "Every 30 minutes somewhere in the UK a crucial computer bursts into flames, sinks beneath grimy flood water or grinds to a humiliating standstill" works out at over 17,500 "crucial" computer disasters in the UK every year!

Obviously UCSL has a vested interest in emphasising the dangers, but either Mr Hitchcock's figures are utter nonsense or he is including normal hardware failures where standby facilities are irrelevant.

I. D. FOLLETT
Computer services manager
Lucas Group Services
Solihull, West Midlands.

Voice for Cobol users

THE NCC has been a member of the Codasyl Cobol Committee for some time and as such is anxious to represent UK user views. As you rightly reported (CW, August 19) Codasyl currently has a task group defining a screen management facility, which is due to report back to the main committee in March 1983.

At the May 1982 Codasyl meeting when the current proposal was first discussed, Dan McCrimmon, chairman of the task group, expressed his concern that there was no user voice (let alone a UK user voice) on the task group.

As part of its Data Processing Technology Circle, announced in May of this year, NCC is setting up a Cobol Standardisation Group. The aim of this group is to study proposals before the Codasyl committee in detail thus providing NCC staff with solid UK user opinion. In this way NCC can make UK users aware of Cobol developments and also make their voice heard at Codasyl meetings.

In this respect one of the first items to be studied will be the Screen Management Task Group's proposals. Anyone interested in Cobol and who wants their voice as a user to be heard at Codasyl will be welcomed as a member of this group.

Further details of the DP Technology Circle and the Cobol Standardisation Group can be obtained from The Data Processing Technology Circle, The NCC, Oxford Road, Manchester M1 7ED.

LYNDON MORGAN
Senior consultant
NCC Standardisation Office
Manchester.

Wang mini gap plugged

With regard to your article Systems House Plugs Gap for Wang Minis (CW, July 29) I would like to bring to your readers' attention that my company has been selling multi-currency accounting packages on the Wang 2200 systems for some considerable time and we have an installed base of over 200 systems in the UK.

JOHN H. BENNETT
Chairman
Kerridge Computer Company
Newbury, Berks.

Catching up on supplies

HAVING recently returned from my holiday, I was catching up with my reading when I came across the special feature (CW, July 22) on computer supplies. A few points should have been made that were not covered.

The main implication of an article by a representative of DNCS, was that the best deal could almost certainly be gained from dealing with a mail order supplies company. While mail order is a convenient form of purchasing for the smaller user, it has by its very nature to be somewhat limited.

If one considers the available range of product it would be impossible, or at the very least far too expensive to produce a catalogue that could be regarded as comprehensive. This can be highlighted by my own company's product range which is tailored to suit a cross-section of computer installations.

For example we stock hard discs that will fit over 2,000 different drive types, and floppy discs that will fit a similar number of floppy drives. This is not to say that there are in fact 2,000 different types of disc, but if a user was trying to resource an OEM labelled product and did not have access to the relevant product number of a popular media manufacturer, the only way to source the disc would be through a drive cross-reference list. It would be impossible to incorporate such a list in a catalogue partly because of the sheer size of such a list, and partly because of its built-in obsolescence.

With these facts in mind, most users would prefer to have a personal visit from a well trained technical representative who would be able to give on the spot assistance and advice concerning the resourcing and availability of comparable product.

The same writer's comments concerning the fact that a user is not guaranteed to be purchasing the same product merely by buying the same label is a very valid one. It is a well-known fact within the industry that even if one buys an original manufacturer's label product it does not mean that that product has in fact been manufactured by that particular company.

Many people in the computer supplies industry are not sufficiently professional to be able to sell quality product, and therefore their only strong selling point is that of price, and this policy requires them to shop around the market and buy as cheaply as possible. This method of trading is based on a principle of high volume, low profit, and the main problem with this particular policy is that at the end of the day the user often suffers, even though the user is a conspirator in the problem by encouraging prices that are often far too cheap.

Computer supplies are a very important area within the computer industry, and yet one rarely sees articles in the trade journals that cover with any real meaning this particular area. I would like to see journals such as your own carry regular features on supplies which would be of valuable long-term assistance to every computer user. This in turn would force many computer supplies companies either to become more professional or to leave the industry, which again would add to the long-term benefits of the computer user.

DAVID PALLETT
Sales manager
JMF (Computer Supplies) Ltd
Harrow, Middlesex.

Basic Welsh

WITH reference to Emrys Jones's letter Those Basic Bodgers (CW, September 9): he's coming on a bit strong about Basic, isn't he? In what other language, look you, could I write LET E$ = "EMRYS SHOULD GO TO", LET L$ = "LLANFAIRPWLLGWYNGYLLGOGERYCHWYRNDROBWLLLANTYSILIGOGOGOCH", PRINT E$ + L$?

DONALD ALCOCK
Reigate, Surrey.

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Get your act together for program testing

CONTROL flow and dataflow are two designs of hardware being considered for the so-called fifth generation of computers. But the computer industry is not noted for its breadth of vocabulary, and the same two words are names of software testing processes.

A control flow test searches for incorrect jumps or branches in the middle of a program, while a dataflow test looks for illegal data values during program execution.

The growing field of program testing is well mined with other jargon, such as the new explosive area called "mutation testing". This involves generating a whole set of tests such that any modification or "mutation" in the program being tested will result in at least one of the tests producing a different result.

Inserting a plus sign for a minus sign, or swopping two statements around would therefore alter the result of one or more of the tests. The idea is that so long as the ideal result of the tests is known, then at least one of them will detect and with any luck identify an error in the code.

Mutation testing is the sort of thing academics get excited about, but in practice is pretty useless because even a simple program can "mutate" in so many ways, and would need a huge test set.

Control flow, dataflow and mutation are examples of dynamic analysis, which is the testing of a program in action. There is also static analysis, which includes searching for syntax errors in the code, and the examination of compiler listings for type errors such as comparisons between numbers and characters, and other anomalies that might cause a program to crash at execution time.

Static analysis can be complete in the sense that a given list of points can be checked exhaustively, and indeed programs have been written that do this automatically.

Dynamic analyis, and testing in general, can never be exhaustive in the sense that no system can be given an absolute guarantee.

For a sure piece of code can be given a "carte blanche" guarantee, but what use is that in the event of a hardware failure, or even if there has been some mistake in communicating the needs of a system to the final programmer?

The beauty of a system generator is that so long as the specification is right, then so will be the code. But current system generators will only produce standard packages such as ledgers. There will always be the need for some program that is beyond the scope of any existing system generator.

In a well-organised software laboratory (now who is inventing jargon!) development is divided into four stages. First a requirement is developed, then an overall systems specification that describes the kind of software to be written.

This will lead on to the design development that describes each program and sub-program in detail. Last, and not most, is the coding itself.

Testing should not be confined to the coding stage, since an incorrect design cannot possibly result in a correct program. Similarly if the original requirement is wrong, there is little point proceeding with a system specification. The later a mistake is discovered, the more costly it is to put right.

Testing at any stage cannot possibly be exhaustive, and the secret is, I think, to be specific, and just do a bit at a time.

It is useless just gaping at a listing in the hope that an error will suddenly manifest itself. Instead, each line of code should be scutinised against a mental screen on which are written key points.

Arithmetic statements should be checked to make sure they do not mix variables of different type, for example.

Bugs tend to be cumulative, and are therefore much harder to find in large programs than in small. If no sub-program of a system is more than 20 lines long, testing as well as coding is much easier. This is not always possible, but can be simulated in larger programs by splitting it up for testing into manageable chunks.

Hatcher and Mehew. He built the boat. She's hooked – plans to race to the Azores next time.

Round Britain, the wet way

DO sailing programmers calculate tide tables with the aid of a flowchart template? Can computer journalists come up with jokes more contrived than this one?

The excuse for the appalling joke is the occasion of an intrepid programmer successfully completing the month-long Binatone Round Britain and Ireland Yacht race in August.

Sarah Mehew, a programmer with RTZ Computer Services in Bristol, crewed the McArthur class boat – named RTZ Computer Services after its sponsors. RTZ put up £2,500 towards the cost of competing in the 2,000-mile race. Stuart Hatcher, a founder member of Portishead Yacht Club, not only provided the other half of the crew, but built the boat himself.

"Stuart asked me if I'd like to compete about a year before the race," says Mehew, "and as I'd only got experience of dinghy sailing, I took a course of evening classes to get my Yachtmaster Offshore Certificate."

"We couldn't have done it without RTZ," she adds. "It's a pity other software houses can't do this sort of thing too – it'd be great publicity for them."

Problems encountered on the voyage included severe cold while rounding the Hebrides, running out of basic provisions, and a near miss with the St Kilda rock. Mehew and Hatcher finished 56th out of 87 starters and plan to race together again.

"We were probably the most inexperienced crew in the race," says Mehew, "and it was a great feeling to complete the course."

Mehew has now purchased a [illegible] foot yacht of her own, and plans to enter next year's Azores-and-back race. RTZ Computer Services is now up for sale – a snip at £20,000.

The boat, not the company.

Yard has finger in many pies

CAP, Logica and SDL are software household names now. But mention Yard to the nearest computer person, and the reply will probably be: who, Scotland Yard?

Yet the computer division of Yard, which set up as a firm of consulting engineers, is big enough, employing 120, including 60 in real time software. The main office is in Glasgow, but there is a subsidiary office in Chippenham, and Yard has its corporate fingers in many civil and military pies on both sides of the border.

Yard is like many other similar-sized and smaller software houses that have until now shunned publicity and yet have never been short of work.

"We have kept ourselves busy without a great deal of shouting," says Yard chief engineer Ray Faulkes.

That is now going to change. "A lot of other people are shouting, so why shouldn't we?" Faulkes apologises.

As well as joining the wagon, Yard is following in the footsteps of some of its more illustrious fellows by farming out some of its research interests to a university. It has just concluded an agreement, to be reviewed annually, with Stirling University for the development of requirement specification languages and configuration control.

"We have limited private investment, so our academic research budget is limited," explains Faulkes. "With this agreement we get detailed, up-to-date academic information. At the same time we give Stirling the ability to see large-scale software production in progress."

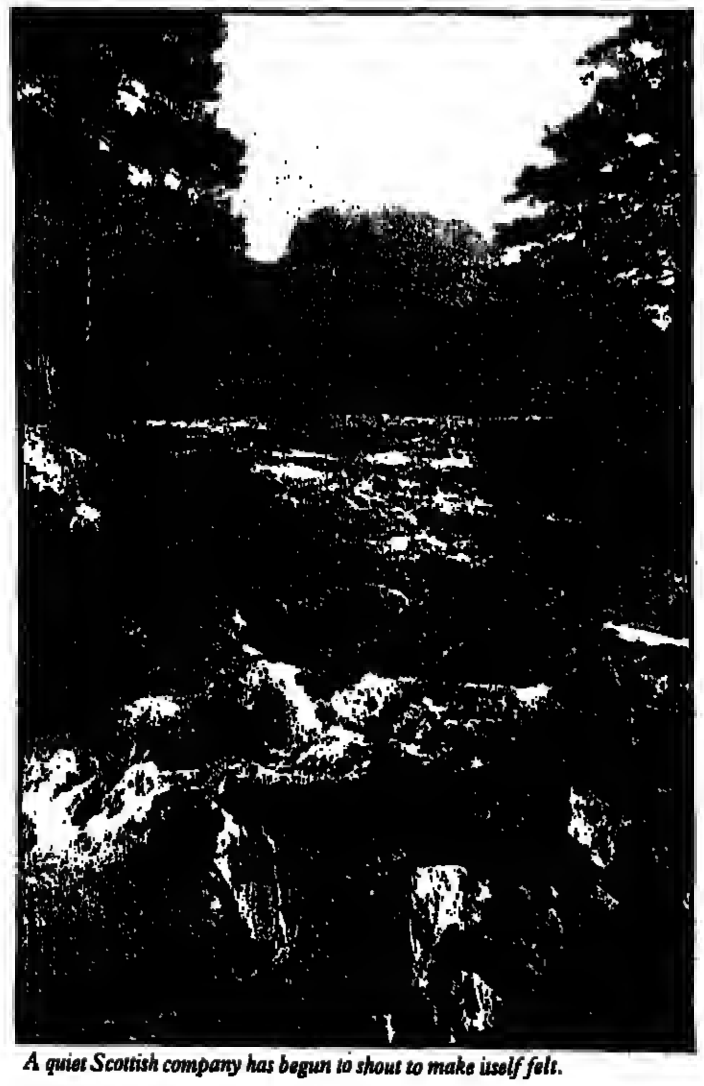
Faulkes admits that there are already several well-known requirements specification languages around, like SSL, System Specification Language. "But we know there are holes in these," he says.

The work at Stirling is aimed at developing a system which allows the user to draw sketches on paper and draw balloons around the significant characteristics for the computer to assimilate.

The aim of a requirement specification language is to give the user the ability to define precisely what a system is supposed to do. The final result of its use, says Faulkes, should be a contractual document which defines the system and can be produced as evidence in case of dissatisfaction.

A lucrative offshoot of this requirements work for Yard is consultancy in litigation when the quality of a software system is questioned. "We are called on to give evidence on one side or the other," Faulkes says.

"But sometimes we advise people to drop a case, or settle out of court," he adds. "For example, when a company's specification is too sloppy."



A quiet Scottish company has begun to shout to make itself felt.

PUZZLER

FOR this week's problem, you'll need to draw a large rectangle measuring 177 x 176mm. Then, from a separate piece of paper, cut out eleven squares having side dimensions of 9, 16, 21, 25, 34, 41, 43, 57, 77, 78 and 99mm.

The task is to fill the rectangle jigsaw-fashion, with no overlapping, so that the squares lie together to cover the whole area exactly. See page 47 for solution.

This Series 1 specialist is keeping its head above water

IBM systems are normally a safe bet for a software house – the market is large and well trodden. But this is not so when the house deals only with Series 1, the minicomputer tucked away in a neglected corner of IBM's formidable hardware arsenal.

Not only neglected, but underrated, according to many IBM watchers. A reliable machine denied the marketing and development support it deserves from a blue giant with so many other stars in its galaxy.

Amba Software of Reading not only narrows its angles by keeping to Series 1, but last year made life even harder for itself by forsaking the lucrative commercial applications like payroll and accounting.

"We got rather swamped by this commercial stuff about a year ago," explains co-director Brian Dance. So despite a shortage of companies producing commercial Series 1 applications, Amba focused on telecommunications systems – and had to cut its coat accordingly.

About a year ago there were 12 people in the company, but now it has shrunk to seven plus administrators.

The staff reductions were mainly achieved by natural wastage, says Dance.

Three of the staff are Oxford graduates, recruited through the Oxford University appointments committee. They share the company profits. "When there are any profits." Last year Amba turned over £180,000, and had only £60,000 profit out of which to pay its staff.

Amba is a specialist in applications concerning water. One of its biggest contracts worth £150,000 was for the East Worcestershire Waterworks company.

A Series 1 collates information on supply, demand and flow of water from remote pumps, reservoirs and bore holes. The data arrives by UHF radio and is used to predict future water demand and calculate which pumps should be switched on, when, and for how long.

Amba beat Logica and Kent Process Control at tender for the Worcester contract. This was possibly on account of hardware, suggests Dance. Worcester had IBM hardware, while the system Logica put up was on Digital Equipment's.

Amba is developing a different sort of water system for the Wessex Water Authority in Bath to analyse chemicals such as chloride or fluoride in the water.

This automatic analyser for Wessex depended on the great strength of Series 1, which is its ability to be connected to virtually any equipment. "This is unusual for IBM," says Dance. Usually IBM hardware can only be connected to IBM hardware.

As a result the Series 1 is useful for communicating between an IBM mainframe and peripheral equipment made by another manufacturer.

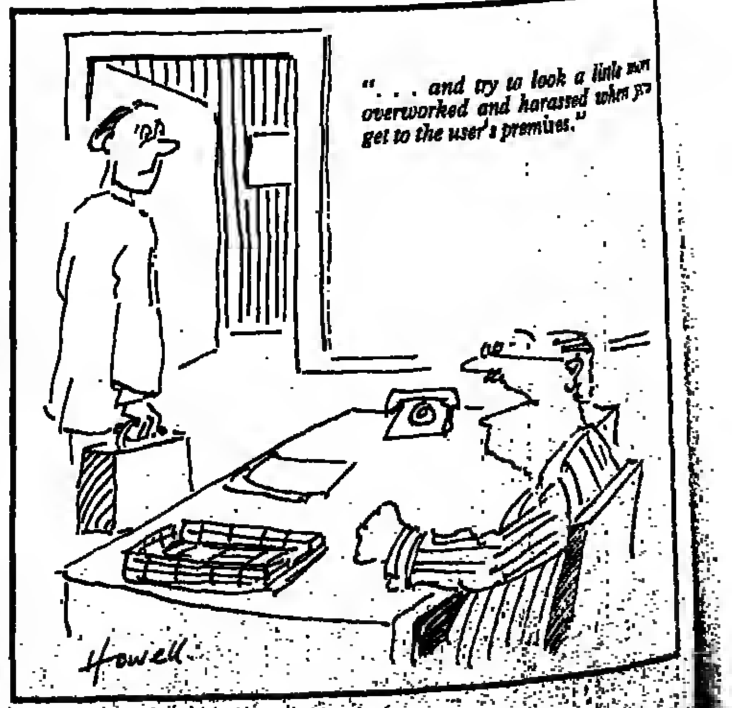
IBM does have the 4700 cluster controller to do this, but the Series 1 has the advantage of being more intelligent. According to Dance it is also extremely reliable.

Sales of Series 1 computers [illegible] increase in the next few years because it supports private viewdata systems. But Dance expects the [illegible] will be more useful communicating with mainframe-based viewdata systems than as a stand-alone viewdata machine.

Indeed, Amba has developed such a viewdata system for Volkswagen to provide garages with information from a private viewdata system based on a central mainframe.

Although Amba has shrunk over the last year, it is still hunting for one or two good communications people, of whom, Dance laments, there is a dire shortage.

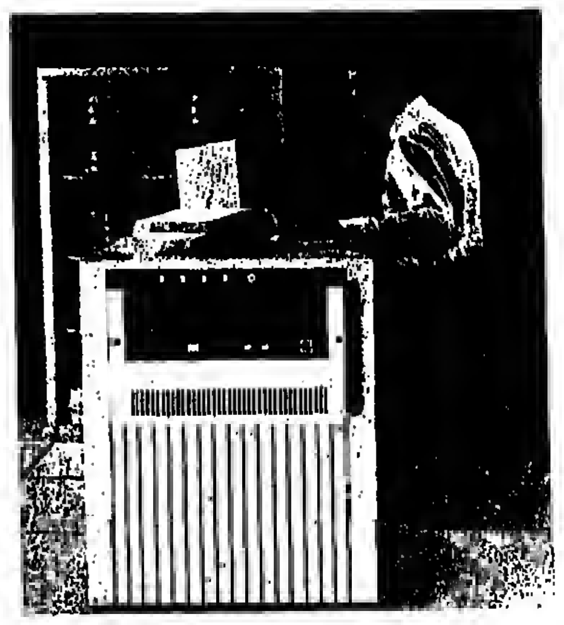
Amba has felt the temperature of the contract pool, but did not like it. One contractor who knocked at the door seeking work was quite good, but another from an agency just could not get the hang of Series 1 and did nothing worthwhile, says Dance.



". . . and try to look a little more overworked and harassed when you get to the user's premises."

MOVE UP TO 32-BIT POWER?

TWO SMALL FACTS FROM PERKIN-ELMER



For the system specifier and OEM, moving up to 32-bit is suddenly a lot easier. Perkin-Elmer announce a major price breakthrough in 32-bit minicomputers - now you can have mainframe performance at a price below what you're probably now paying for 16-bit systems.

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PEOPLE

BT deputy joins board at Systime

Benton

BRITISH Telecom's deputy chairman **Peter Benton** has joined the board of Systime as a non-executive director. He is a member of the CBI Economic and Financial Policy Committee and the electronics EDC of the National Economic Development Office (NEDO), and a Companion of the British Institute of Management.

Between 1953 and 1955, Benton served in the Royal Engineers in Egypt and Cyprus. This was followed by appointments at Unilever and Shell, and later seven years with management consultants McKinsey & Co.

He joined Gallaher in 1971, becoming a member of the group board and chairman of two major subsidiary engineering companies. He joined the Post Office as managing director of telecommunications four years ago and was appointed deputy chairman of British Telecom in June last year.

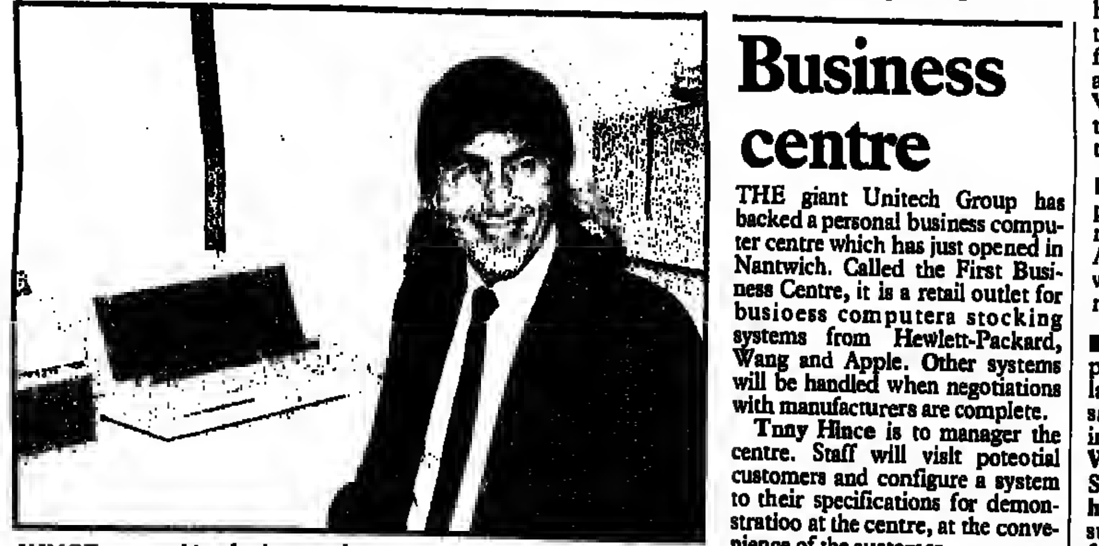
■ General technical director for ITT Europe is **Dr William Smith.** He has also been made a vice-president. Smith joins the company from Bell Labs, where since 1979 he was an executive director of the local switching division in Naperville, US.

■ I.P. Sharp's Dublin office, which was opened earlier this year, has appointed **Colin Walters** as a consultant. He recently completed degree in economics and politics at University College, Dublin.

■ **Christine Beamish** has joined Newbury Data Recording as a sales executive for the company's peripherals, visual display terminals, matrix printers and microcomputers. She was previously an installations supervisor with DRG Business Machines.

■ Joining Kent Modular Electronics as sales and marketing manager is **John Russell.** Russell joins the company from GA Stanley Palmer, where he was sales director.

■ Microsystems services has promoted **Lorna Charles** (above) to a new position in the company-product manager for the Force range of systems and board products. She joined the company in 1977 as secretary to the data I/O product manager, and promotion to inside sales, product manager for UV erasers and later operations manager followed.



HINCE . . . taking business to the customer.

■ Sinclair Research has appointed **Bill Matthews** as general manager responsible for finance, administration and sales. He joins the company from Hoerbiger Group, where he was executive vice-president based at Houston.

■ Positron, the St Helens-based 16-bit micro manufacturers, has appointed **Ian Kendrick** as dealer sales manager. He was formerly with Cytek, where he was responsible for the North of England dealer base.

■ Former NCR systems salesman **David Griffin** has been appointed sales executive to the computer division of Cable and Wireless UK Services.

■ Senior sales executive at Itel Software Sciences is **Clive Smith.** He was formerly a senior sales consultant at Pansophic.

■ National Advanced Systems has appointed **Alan Martin** director of system support technical services. He is also responsible for the company's software planning.

Business centre

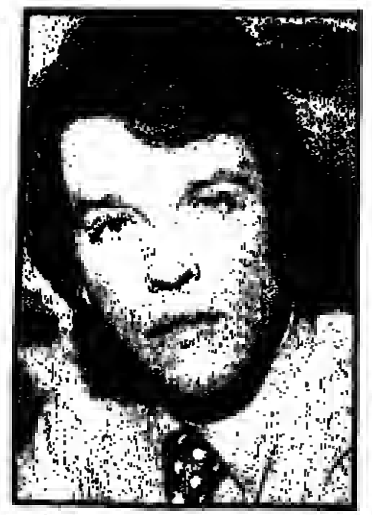
THE giant Unitech Group has backed a personal business computer centre which has just opened in Nantwich. Called the First Business Centre, it is a retail outlet for business computers stocking systems from Hewlett-Packard, Wang and Apple. Other systems will be handled when negotiations with manufacturers are complete.

Tony Hince is to manager the centre. Staff will visit potential customers and configure a system to their specifications for demonstration at the centre, at the convenience of the customer.

Details: (0270) 629090.

■ A microcomputer company has been launched by **Hugh Maclennan,** founder director of the House of Cards data prep group. Called Spiro Enterprises, the company is an official Sirius and Racal dealer and offers integrated accounts packages, financial planning and word processing. Contact Spiro Enterprises, 3/4 John Prince's Street, Cavendish Square, London W1 9HD. Tel: 01-499 1608.

■ **Roger Attard** has joined the data division of Farnell International to look after sales enquiries for Tandberg Data computer peripherals in the South of England. He was previously with Linotype Paul where he serviced and installed microprocessor-based typesetting equipment.



■ Intelligence UK has appointed **David Low** (above) as director of software sales for the UK and Europe. He previously played a major part in getting Philips into the video market and more recently was managing director of ACT Microsoft.

■ Anadex founder **Jack Weaver** has handed over the presidency of the company to his son Randy, formerly a company vice-president and chief finance executive. Jack Weaver will now concentrate on the development of advanced printers for business systems.

■ **Genffrey Healing** has been appointed sales manager at the technology division of GEC Traffic Automation. He was previously with Emidata and National Business Systems.

■ Logitek has strengthened its presence in the South-east of England with a major push for micro sales in the region and the upgrading of its London office. **John Wonds** has been appointed Southern area sales manager. **Graham Glena** joins Logitek as dealer support manager in the South-east from business systems supplier Beam.

■ Former Wang senior customer support analyst **Lynda Lyen** (above) has joined Peachtree Software International as support consultant. Before entering the computer business, she taught English in France and Hong Kong.

■ Vlasak Computer Systems has strengthened the support it gives to its network of dealers in the UK and abroad. **John Pidgeon,** formerly software manager at Commodore Business Machines, will co-ordinate all support and training services for Vlasak. An associate company, V2S Systems, has been formed and will be headed by **Paul Smith,** who has been named managing director. His co-directors are **Paul Vlasak** (MD Vlasak Computer Systems) and **Alan Swan.**

■ After 13 years at IBM, **Alan Trott** (above) has transferred to Computer Associates where he takes over as technical support manager. He joined IBM as a shift leader operator. He then became acting ops manager and programme support customer engineer, finally being promoted to regional systems engineer, a position he held for two years.

■ UK marketing representative for Itel Software is **Marc Matza.** For the past two years, Matza has been at the London Business School where he gained an MSc in business administration.

■ **Gary Lowrey** (above) has been appointed product manager for the Convergent Technologies workstation at CTL. He previously spent three years with NCR as product group manager for microprocessor-based computers.

■ Two new appointments have been made at Rediffusion Computers. Joining the Crawley office as senior systems verification analyst is **Simon Rigden,** who previously worked for ICL as a computer performance consultant. **Robert Johnson,** former Rank Xerox salesman, becomes salesman for Rediffusion and will be based at the company's London office.

■ Dicoll Electronics has appointed **Derek Holloway** as [illegible] sales engineer for the North of England. He was previously with Racal Milgo.

■ **David Anderson** has joined MSA as systems consultant. He was previously with Black and Decker where he was cost projection analyst and systems analyst.

■ Midlands-based software house Systems Resources has named **Richard Durrant** (below) as sales manager for the professional services group. Previously with Computer Resources, Durrant brings to the company over 12 years' experience of the computer services industry.

DIARY

OCTOBER 5

The impact of the new technology on management. Speaker David Fairbairn, director of NCC. IDPM Scottish branch-British Institute of Management. Merchants House, 7 West George Street, Glasgow.

The Talisman Stock Exchange System. BCS North West London Branch. Railway Hotel, Greenford, Middx. 7.45.

OCTOBER 6

Impact of new technology on management – challenges and implications of IT for the workplace. Speaker Ted Cluff, secretary-general IDPM. IDPM Scottish branch – Institute of Management. Lecture Theatre, College of Commerce, Aberdeen.

Introduction to Forth seminar. RCS Microsystems. Osterley Comfort Inn, Isleworth, Middx. Reservations 01-898 3775.

The future role of operations. IDPM Birmingham branch. New Imperial Hotel, Temple Street, Birmingham. 7.30.

Mighty micro and super graphics, IDPM Central London branch. Altergo, Imperial House, 15-19 Kingsway, London WC2. 6.00.

Productivity in application development. IDPM Sussex branch. Town Hall, Market Square, Horsham. 7.00.

OCTOBER 12

Visit to Thames Valley Police Computer Centre. IDPM West London to Oxford branch. Thames Valley Police Computer Centre, Kidlington, Oxford.

OCTOBER 14

Rigorous software engineering. BCS Software Engineering Group. Large Chemistry Theatre, Birkbeck College, Malet Street, London. 10.30.

OCTOBER 19

Visit to London Air Traffic Control Centre. BCS North West London Branch. Numbers limited. Contact Frank Rich on 01-864 5311 ext 2359 to reserve place.

OCTOBER 21

Computer privacy and a data protection law. Speaker Pat Hewitt, NCCL. BCS London Branch. Charing Cross Hotel, The Strand, London. 6.00.

JANUARY 5-6

Viewdata. Conference on the state of the art. Institute of Information Scientists WP and computer information special interest group. Details Mrs Bird on (051) 645 2000 ext 8611.

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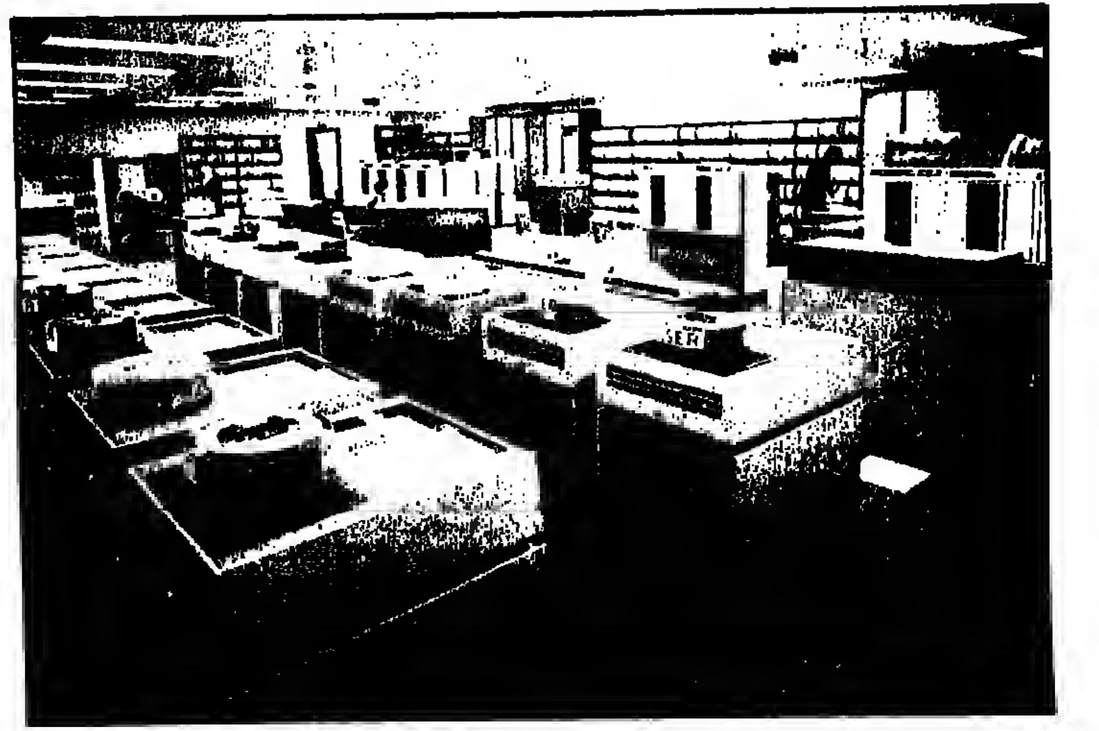
BUREAU SERVICES

Computer bureaux exist to give firms a way out of risks associated with in-house systems, says Frank Jones

Taking the risk out of business means total service philosophy



A bureau offers the user large mainframe facilities without any maintenance or installation problems.

ONE of the stanzas of Rudyard Kipling's poem "If" neatly decribes the dilemma which often faces the company executive or data processing manager when deciding how best to computerise certain aspects of his business.

If you can make one heap of all your winnings
And risk it on one turn of pitch-and-toss
And lose, and start again at your beginnings
And never breathe a word about your loss.

The traditional concept of the bureau has been to take the risk out of computerisation, and provide the benefits that a computer can offer without the problems and overheads associated with a company running an in-house system.

Could Kipling have foreseen the suggested analogy of a company ploughing capital into acquiring its own system and preparing to take the risk that a crucial decision had been made incorrectly? Or of an ostrich-inclined data processing manager who went for an IBM system because nobody would blame him if this was the wrong decision? Or, to strike nearer home, of the same man who employed a bureau to give someone else the risk?

The philosophy of risk removal is justified by a recorded value for processing work done in 1981 by the 280 UK bureaux of £300 million. Department of Industry statistics show that, since 1978, the bureau has been in gradual slide in terms of percentage share of the total UK data processing market by value. A 49% share in 1978 has fallen by about 2% per annnnum in 1981.

More detailed examination of these figures reveals why this is so. Over the same period, interactive processing has increased by almost 50% at the expense of batch processing. This is hardly surprising as the cost of developing interactive systems has dropped dramatically. Moreover, the continuously reducing cost of terminals and multi-function micros now available for use in online networks makes their installation a far more economical proposition than before.

What this means in terms of bureau companies' growth is that while a major change of "method" has contributed to a slight fall in share by value for conventional batch or interactive bureau processing, the same technology responsible for permitting the change is being used by the more forward thinking bureaux to offer more than just the standard bureau solution to data processing problems.

> **The role of today's computer bureau is to offer the right service in the right place at the right time**

Many bureaux claim to offer a total service to their clients. Not only will they provide computer systems to be run on the bureau computer, but they will also supply the hardware to be installed on the customer's site.

They will also provide the user with an upward growth path of that hardware so that as requirements change, the percentage of work carried out on the customer's site can be increased by installing intelligent terminals, micros and minis. Hence bureaux can provide full turnkey solutions to both new and existing clients.

At the other end of the data processing spectrum in today's economic climate, bureaux have a role to fill in taking over and running existing computer departments in facilities management deals.

Many computer departments have grown so fast that their data processing output represents a significant part of the total company's costs. The department is often one of the first to be scrutinised when costs come under review and senior management may well seek to compare in-house expenditure with the bureau operated equivalent.

The role of today's computer bureau is to offer the right automated processing service in the right place at the right time. The right service will be that which maximises a company's profitability and it must be the key task of the data processing manager to openly recognise this and steer a course of action to ensure it happens.

This is often considered to be the financial director's responsibility, and of course it is – across the company as a whole. But, within the computer environment a sufficiently enlightened data processing manager will formulate budgets which contain all the appropriate parameters, and do not deliberately leave off such items as the true cost of employing staff or full site and power costs which are often hidden in other cost centres.

If the DP manager is up to his job he will be the prime mover. He will want to be involved from the outset and will take the initiative at every opportunity.

The data processing manager must recognise for his own and his company's good that the systems and services he specified yesterday may not be right today and are even less likely to be right tomorrow.

The degrees of enlightenment practised at manager level will have a direct bearing on the overall computer room environment and the attitudes of the staff who work there. Their effectiveness will be dependent on the data processing manager's standing in the company. Traditionally, staff attitudes in bureau and in-house data processing departments are very different and this is a key reason why so many bureaux are still in business.

The work concept is approached from opposite ends of the spectrum. In the DP department work expands to fill the time available for its completion. Within the bureau the job is executed within pre-set, tighter timescales.

The bureau has had to react first to the changing face of the computer industry to remain competitive. Economies of scale have been achieved during the last 10 years. Dramatically falling hardware costs and increased processing power have helped bureaux as much as the in-house user, because during the last five years the cost of hardware has represented a geometric regression in the apportioning of project budgets.

The leading UK bureaux are now extending the concept of placing online plug compatible terminals on the customers' premises to provide ranges of microcomputers with specialist programs created by bureau staff for their customers to use as combined entry terminals and devices for front end processing prior to transmission.

Facilities management which is not always regarded as a bureau service – the Department of Industry statistics separate out facilities management services from data processing bureau services – will continue to grow in popularity.

In most cases the customer will have the mainframe taken off his hands, and gladly relinquish the floor space, operating costs and the majority of operations, systems and programming staff from his payroll. The bureau will absorb these people and achieve greater productivity with them.

The other major growth area for bureaux is the supply of turnkey solutions to customers' problems. Increasingly, companies are looking for one supplier to save them having to piece things together from many different suppliers.

Looking to the future, one of the most exciting development areas for bureaux is viewdata systems. The developments will be in three main areas – first, bureaux can act as providers of easily accessible information to specific industrial or commercial areas. Commercial users will feel happier accessing a separate industry database, rather than trying to find information from the main Prestel files.

Second, individual companies which sell a large number of products to a large customer base will develop extensively in this area.

Third, when Prestel Gateway systems are fully operational it will be possible to transfer data from industry or customer viewdata systems directly into the Prestel system and vice-versa.

The original thought of the bureau taking the risk out of business seems to have turned a full circle. Current and future developments indicate that the bureau's horizons will widen to such an extent that the need for specialist computer service companies providing the total range of computer services will be increasingly justified throughout the 1980s.

Frank Jones is managing director of Duport Computer Services.

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Methods come, methods go — the client keeps on paying

In the good old days, hiring time was easy. Now it's a science whose mysteries are impossible to penetrate. Chris Naylor looks at bureau charging structures

ONCE UPON a time, when programmers who were people drove machines that were iron, buying machine time was easy.

All one did — and the mere memory of it is like a knife through the heart as one weeps for one's lost innocence — was to phone a friendly local DPM and scrounge an hour or so on his machine when he wasn't using it. Maybe an invoice would change hands for £50 or so — maybe not. Really, it was just like borrowing a friend's car. Easier really, when one considers the different connotations of the word "crash".

Even when the first computer bureaux came into being the world did not grow old overnight — an hour of machine time, yes, £50. And everybody was happy.

Even with hindsight, it's a little hard to see just when and where The Fall began. Perhaps the culprit was the person who invented magnetic tape.

Imagine, for instance, splashing out your 50 quid and then finding the bureau had the gall to charge extra for paper tape.

"For the hour — £50," the man would say as you collected your work. "And, for the paper tape . . ." and possibly he would measure off a dozen yards of the perforated variety against a brass rule set in the data reception desk top. The senses would have reeled at the sight of a monster who would put an extra couple of bob on the bill for paper tape usage.

But mag tapes were different. They cost real money. Everybody who had a tape recorder knew that — so, if you wanted to use the new technology, you had to pay for it with a tape storage charge.

And then, rather after the fashion of a yodel in the Alps, the avalanche followed.

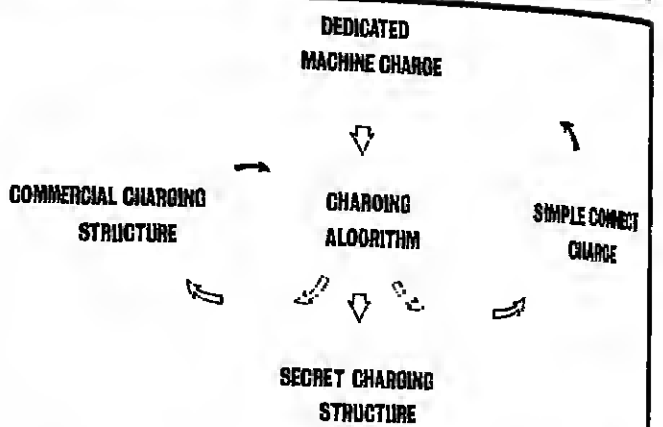
Disc drives, for instance, didn't help. If you can pay for mag tape, you can pay even more for discs. But the edifice really fell on one's head when the first multiprogramming operating systems came into use, because after that it made no sense to talk in terms of an hour on the machine.

But, if an hour on the machine didn't make sense — then, what did? The answer to that question was — that nobody knew.

At first, it seemed that a bit of simple common sense would win the day. Use the operating system to tell you how much processor time each job had used and then relate that to some hourly rate in order to get a price for the job. Add to this, of course, the tape and disc storage charges and everything should make sense again.

Except for the fact that operating systems are funny things.

To an operating system one second is whatever it's told is one second. For instance, one second might be one-tenth of a normal second. It just depends on how the system is set up. And, suddenly, one hour becomes ten minutes.



The great bureaux thought cycle

A SIMPLE machine can be charged on a simple, dedicated, machine basis. As the machine complexity increases it becomes necessary to develop a complex charging algorithm to accurately reflect usage and to steer the users towards more efficient usage.

If this algorithm becomes sufficiently complex, it becomes necessary to keep it secret to avoid risk of bafflement in the user. If an attempt is made to break out of this mould by adopting commercially-oriented charging structures the problem arises that the charges do not necessarily relate to machine activity and have to be modified so that they do.

This leads back to a charging algorithm again. If an attempt is made to break out by making a simple connect charge the illusion is created that the user has a dedicated machine at his disposal — which he doesn't. The charge then has to be modified to allow for this.

The only stable charging structure is a secret one.

Not that there's anything wrong with this. After all, a bureau that sells shortish seconds is likely to charge less for them than a bureau that sells complete seconds and, very much to the point, all of the customers who go through the machine in one hour are unlikely to meet and add up all of their seconds to see what percentage of an hour they had between them.

With multiprogramming it was not only the jobs which were conquered after being first divided. The customers, too, had lost the bird's eye view necessary to understand what was being done. Even when what was being done was themselves.

Not that anybody minded. Using a computer often saved the user more money than it cost him and the realisation of this sent the bureau business into boom. So much so, in fact, that the machines started to get clogged up with work and a major problem was how to unclog them.

The Great Unclogging began with the knowledge that the users weren't being fair to the bureaux. They would do things which didn't make for efficient usage of the machines. They asked for tapes to be mounted, they wanted to print out results, they wanted jobs run in the mornings, they wanted, in short, all of the same things as each other and all at the same times.

To such demands there was an easy answer — let them have it but charge them for the pleasure. And, suddenly, out of a clear blue sky came a great host, a swarm, of assorted charges for tape mounts, disc mounts, I/O activities, storage charges, processor charges, time-of-day surcharges and turnaround premiums. So great and complex was this host that the bureaux had recourse to their own computers simply to calculate all of these charges and The Great Charging Algorithm was born.

So great was this algorithm that it took a significant amount of machine time to calculate it. So great, in fact, that the bureaux made a loss every time it costed up a small job, so great were the calculations thereof.

Rather than turn away such small jobs (for, in truth, they all add up), the Minimum Charge was born in order to pay for the cost of calculating all of the other charges.

All of which was fine, because people still used the bureaux and still paid their bills. Except, of course, for new customers who in their naivety would ask how much it cost to use the bureau. Which was, actually, quite a good question. Unfortunately, the answer to this question lay on disc and could really only be understood by the computer.

It was when the users' had recourse to old-fashioned books that the bureaux invented the Great Computer Resource Unit which was, exactly, a precise measure of the money a customer would have to pay the bureau every time the bureau said the customer had to pay this amount of money.

Some bureaux were very cheap and would only charge a few pence per CRU while others were very expensive and would charge over £1 for each CRU.

The precise calculation of the CRU — the things that made the bureaux think it was time to ask for another slab of money — remained secret, for there are some things it is better not to burden customers with.

It was into this maelstrom of fiscal idealism that some bold spirits ventured.

"Why not," they said to themselves, "charge the customer in terms that he can understand?"

And so was born the Great Commercial Charging Structures. All you do is to pay a once-off licence fee each year for use of the package to cover royalty payments that the bureau has to make to the author of the package.

Then you have to pay a minimum monthly charge to cover administrative costs associated with issuing each customer with a minimum monthly charge. Then you pay turnaround premium to allow for the fact that not everyone can use the same machine at the same time. Then you pay for storage, because tapes cost money. Then you pay for printer output if it's not connected with the transactions. And then you pay a transaction charge.

But simpler still is the Great Connect Charge System whereby all complications are thrown out the window.

A true Renaissance of Simplicity, this system pretends that each user has a dedicated machine which he accesses via a terminal. He is charged so much for each connect hour and that's an end to the story.

It is just like the old days really — except that he doesn't have the machine to himself because of multiprogramming, which means that what he gets in the hour depends on what every other user gets and how the operating system views his request for a turn on the processor.

It is at about this point that the customer announces his intention of buying a micro.

"Fine!" says his bureau. "Fine. We can supply you with a micro. Good idea."

There is, usually, an initial set-up charge. Then there is the purchase price. Then there is the licence fee on the packages. Then there are storage charges on files maintained at the bureau.

Then there is a customer standing in W H Smith ogling the naked power and simplicity of the Sinclair ZX81, and noting that there is a payroll package and a mailing list package available thereon.

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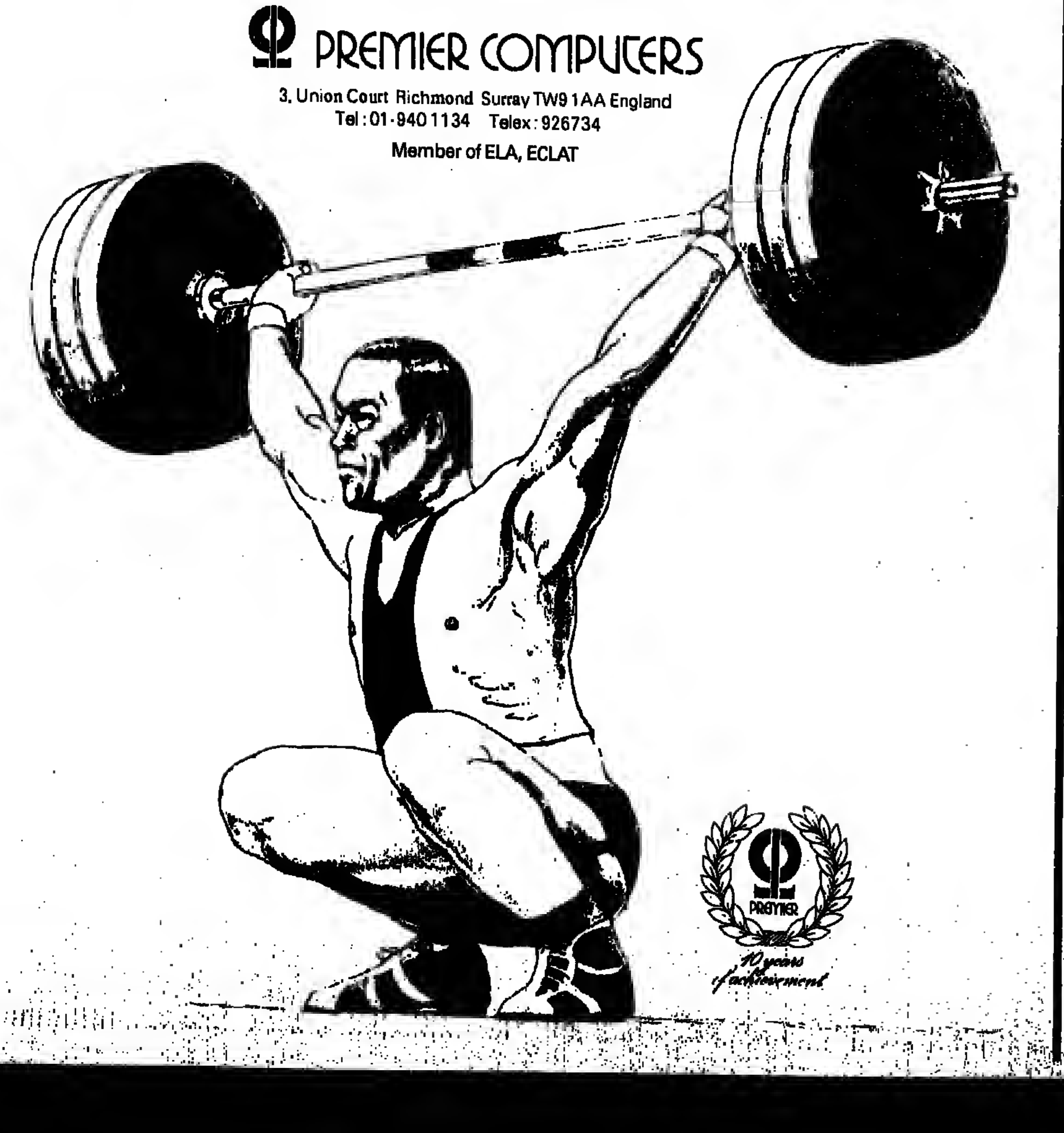


An uncertain future which demands the ability to adapt

John Aczel reports on the past performance and future prospects of bureaux

COMPUTER BUREAUX are facing the future with some uncertainty. Some activities are likely to show only limited growth over the next twelve months, but firms which are flexible and adapt their operations to market needs, are likely to grow rapidly. Those companies which rely on traditional data processing will merge or leave the industry completely.

According to Doug Eyeions, director general of the Computing Services Association, growth for computer bureaux will be "patchy" during the current year, though expansion will be maintained in some fields. Estimates indicate that total revenue may increase by about 13% in 1982, while in real terms growth will be 2% to 3%. This will be in line with the expansion seen in 1981, when conditions were quite tough as a result of the recession.

In recent years, analysts have suggested that demand for computer processing will show a steep decline and that many firms will go to the wall. One reason for these projections is the considerable growth in demand for mini and microcomputers by users for installation on their own premises. Billings for outside services were expected to show a marked fall.

In fact, these forecasts have not materialised. The latest statistics for computer processing billings indicate further expansion has taken place. For instance, in 1981, the total revenue went up by 15%, although the rate of increase has been slowing down in recent years.

It should be stressed, however, that by taking the increases by value terms, one does not get a true picture of the real rate of growth for this industry, owing to the sharp rise in inflation in recent years. One has to adjust the figures by some factor, such as the retail price index, in order to get a more accurate indication of real trends.

For instance, in 1980 inflation was running at about 18%, so that real growth for computer billings was up by about 1%. In 1981 the expansion in real billings was about 3%, after taking into account the impact of inflation.

Market conditions have become much more competitive for computer bureaux recently, and some firms have been squeezed out. For instance, Quantum Science Corporation says that competition has become fierce in many areas, not only in the UK, but also in the major European countries.

It also points out that only the most efficient bureaux with relevant applications software have been able to expand, as well as those companies with large computing capabilities and quick turnround facilities.

The introduction of cheap and efficient mini and micro machines has had an impact on demand for some computer bureau activities. Some clients have been keen to have their processing done on the premises as this provided more flexibility for their special requirements.

Most computer bureaux have seen this trend developing and have adapted their facilities accordingly. Some of them have concentrated on processing very large programs, or storing certain types of data which are not suitable for maintaining on minis and micros.

In addition, some computer bureaux have been actively diversifying. Eyeions points out that many of them have gone into turnkey operations as well as in supplying all kinds of software.

Now very few bureaux are relying on straightforward computer processing; their activities are more broadly based than they have been in the past.

The flexibility of computer bureaux can be clearly seen by the types of programs which they are supplying. Originally, many of them were providing straightforward time hire facilities, but this activity has shown a steady decline over the years.

For instance, in 1981 demand for time hire dropped by 11% compared to the previous year, and this trend has been apparent, not only in the public sector, but also for time hire used by private firms as well.

The biggest growth has been in computer processing based on packaged programs, and these increased by 37% during 1981 for the industry as a whole. The largest sector, however, has remained custom-built programs, but their growth has been lower, averaging just over 20% during 1981. The total value went up to £128 million, although recently there has been a considerable slowdown in billings from this activity.

Computer processing can be used in a variety of ways, but the official statistics break them down only into three main headings — local batch, remote batch and interactive methods.

The pattern of growth in this field has varied considerably, and local batch processing demand has been stagnant during 1981. By value it went up by 12%, which was just about in line with inflation. Quantum Science says it expects a net fall in volume for local batch processing in the current year.

Remote batch processing — processing on an offline basis through a terminal — has shown some increase and went up by 17% by value in 1981. In the private sector, remote batch has shown an increase of 16% while in the public one the rise has been 29% during 1981.

The biggest growth has been in interactive methods — online facilities through a terminal. Computer bureaux have realised the potential of this, and have put in a big effort to increase their activities in this field. During 1981 interactive methods rose by 20% with a particularly sharp increase in the private sector. Users are keen to use interactive methods, because they can get answers to their problems almost instantaneously and with the minimum of effort.

The high cost of telecommunications has inhibited the growth of new transmission methods. This is emphasised strongly by Eyeions, who says that the price of private lease lines for transmitting data has been going up and has been much too high.

This has inhibited the growth of the computer industry, and while computer costs have been coming down sharply, telecommunications costs have been rising rapidly due to the inefficiency of that industry. Eyeions believes that if telecommunications services were more realistically priced, the growth of computer bureaux would be much more rapid than it has been in the past.

The statistics provide some information about the client mix in computer bureaux. As expected, demand from the public sector has slowed down considerably, and in 1981 billings for computer processing for the nationalised and government sector grew by only 8% to £25 million.

EYEIONS . . . *Growth for bureaux will be "patchy."*

The growth for the private sector has been more rapid. Taking into account the billings provided to associate and parent companies, which are mainly in the private sector, a growth of about 16% was recorded by private firms as a whole.

Demand from overseas clients, however, has remained quite small, even though it grew by over 60% during 1981. Total billings for computer processing for overseas clients amounted to only £6.5 million, which was less than 3% of the total. In a sense, this is not surprising because of the problems of transmitting data abroad, but many computer bureaux are not taking advantage of the vast potential internationally and have not expanded sufficiently in overseas markets.

There is little doubt that conditions for computer bureaux are quite tough, and that for some services profit margins are low. There has been some cutback in staff requirements and many computer firms have had to be very flexible in order to survive.

Total computer processing	1980 £m	1981 £m
Custom-built programs	105.7	128.0
Package programs	63.8	87.6
Time hire	74.4	65.9
Processing for public sector		
Custom-built programs	2.2	2.6
Package programs	3.2	8.7
Time hire	18.0	14.1
Processing for private sector		
Custom-built programs	31.7	32.1
Package programs	57.2	74.0
Time hire	43.5	40.8

Bureaux' revenues by type of program used.

Total computer processing	1980 £m	1981 £m
Local batch	128.4	144.1
Remote batch	46.4	54.3
Interactive	69.0	83.1
Processing for public sector		
Local batch	6.0	6.1
Remote batch	5.1	6.6
Interactive	12.3	12.7
Processing for private sector		
Local batch	69.3	73.9
Remote batch	22.3	25.8
Interactive	40.8	47.2

Bureaux' revenues by transmission method.

Low-cost hardware is not the answer to every user problem

Roger Smith believes that giving good software is the bureau's trump card

PRETAX profits of virtually all hardware manufacturers have fallen substantially over the last two years. Now some companies are actually trading at a loss on a quarter by quarter basis.

The race for market share, particularly in the low-cost small business computer range, is taking its toll in profits. Equally, decreasing hardware costs are opening up a new market made up of first time users and those who previously processed their data through a computer services bureau.

This has prompted the comment that the bureaux stand most to lose as a result of decreasing hardware costs, compared with the computer industry sectors. Although this may be partly true, like most generalisations, it oversimplifies a complex situation.

There are two main factors contributing to the fall in the price of hardware. First, there is large-scale semiconductor integration, and one could cite as evidence of its effect the movement from the 16K RAMs, and tomorrow's standard of 256K RAMs. Secondly, there is the increasing functionality associated with each component. This often puts routines into hardware which were previously executed through a series of complex software subroutines.

At first glance it looks as if the user must be on to a winner, but there are a number of other factors associated with the implementation of a system, where the costs are moving in the opposite direction. These are the costs of implementing the right software, the costs of either hiring specialist staff or retraining existing personnel, and the on-going cost of engineering services.

Nobody would dispute that the software is the most critical factor associated with any successful project. Software can be classified into systems software and application software, but in both cases the emphasis should be on making the user interface as simple as possible, and encouraging the actual user to design, develop and execute his own set of programs.

The industry as a whole is moving towards the acceptance of Fourth Generation programming languages, such as Nomad, Ramis and Natural, where the emphasis is on minimising the development costs and maximising the contribution of the individual user.

Clearly, this move towards Fourth Generation software is not in the interests of the hardware industry because it offers a level of portability which is contrary to the very aims of the hardware industry. In addition, the software costs associated with the hardware implementation are on the increase, and may well become dependent on people and resources, both of which are increasing cost factors.

Finally, the support costs of locating a piece of hardware within the company premises brings into question all of the costs associated with floor space rent, best utilisation of space, environmental control and so on, not to mention the costs of running a service engineering contract which is largely labour related and subsequently on a rising price spiral.

Hence, the premise that decreasing hardware costs alone may damage the bureau industry because of a possible migration of users ignores all the factors. Nor does it consider the changes that may also be occurring within the bureau companies themselves.

The bureau industry has grown over the years as a result of its significant investment in software. While the service may be measured and costed in terms of hardware utilisation, this is only a matter of convenience, because the true measure reflects the use made by a user of a software facility without having to incur any of the cost associated with the development of that software.

To a large extent the software employed by bureaux has been made very user friendly to the engineer or the financial analyst. It is in the bureaux that one most commonly finds Fourth Generation software facilities being offered.

Years of constant use by a variety of customers have resulted in bureaux being able to offer suites of software which have been the subject of extensive improvement and refinement.

As the hardware industry introduces more power at less cost, the bureau industry has the opportunity to take advantage of this change. While the hardware costs still represent a high level of expense for the bureau, it has declined significantly as a proportion of the total cost associated with running the service. This has helped to counteract the increasing costs of software development.

The reliability of a bureau's equipment is of concern to a user, so the purchase of any new hardware usually means a duplication of the major elements of the system, in particular the electromechanical units such as disc drives, tapes and printers.

With the availability of packet switched networks a common database of information could be maintained, which with the necessary security and password checks could be available for interrogation or updating by users in different countries. There is certainly not the need for large-scale data processing facilities at each site.

The low-cost microprocessor is a facility which should expand the services of a timesharing bureau. Associated with the decreasing cost of communication is the obvious desire to minimise the time spent using the facilities of the bureau and to maximise the benefit gained by using the software facilities available.

There are various simple software packages which allow the user to develop screen formats for data input and at the same time develop validation routines to check the data. This can be performed offline to the bureau services and the data stored on the backing store of the microprocessor. It is preferable for each bureau to control this development.

One of the major benefits the user can derive from the bureau industry lies in the overall area of service and support. Most bureau operations running a time sharing service will train free of charge all the users at a customer site, so that they are proficient in the use of the software offered.

Traditionally the bureaux have been more service oriented than the hardware manufacturers. The bureau user does not suffer the traumas often associated with the first few months of a new hardware installation.

Changes within the hardware industry are ensuring the continued growth of the bureaux. The bureau industry has been rightly criticised in the past as having no long-term strategy available to the user, other than an increasing spend on the time sharing service.

This is no longer the case. Bureaux propose to clients a mix of time sharing services, in-house micros for actual data input and data validation, through to in-house minicomputer systems capable of running the major part of the bureau software.

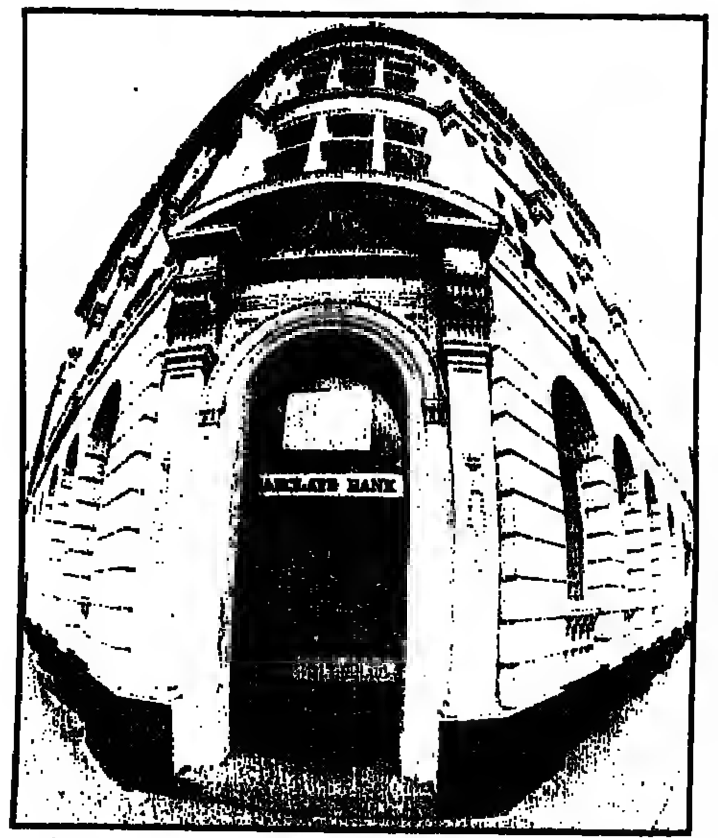
The user can take advantage of the assistance offered by bureaux in developing and creating applications.

Roger Smith is UK general manager of CSS International.

BUREAU SERVICES

There will always be a need for the bureau, says Chris Harrison. But survival requires flexibility and investment

A tough market which holds both a threat and a promise



Banks with commercial bureau subsidiaries should be in a strong position.

THE NEXT 10 years will see a significant shakeout in the market for bureau services, which will become increasingly dominated by a fewer number of larger organisations.

Some bureaux, possibly including some of the larger ones, will go to the wall or simply fade away. Many of the existing types of bureau services will change.

Some bureau organisations which are off-shoots of larger industrial concerns may pose a serious threat to their parent organisations or a promise of greater things to come.

What are the factors that should be considered now in order to secure a future for the bureau market?

One factor is common to all bureaux operations, whatever the services offered and whether the bureau is specialised or general, large or small. We are in the business of making money by the provision of the shared resources of centralised facilities to provide computer solutions to a number of users.

But is everyone in the bureau market achieving that — purposely or otherwise? What are the objectives of the different organisations?

To determine this we must firstly look at the types of organisations that make up the market and then at the effectiveness of the business functions themselves — now and for the future.

Bureaux can be classified as independently owned or corporately owned. Independently owned organisations certainly aim to achieve the above objective. How many bureaux will continue to be able to achieve this objective over the next decade will depend on how well they are able to manage and finance themselves in the future.

Corporately owned bureaux are more complex and can be split into several areas. First, we have those corporate organisations which see their bureau subsidiaries specifically as viable and profitable areas of diversification.

Second, there are those who see their bureau operations as a means of increasingly exerting the influence of their corporate organisations over existing and future customers of the corporate organisation as a whole. In this context we are talking about banks and some nationalised industries.

Finally, there are those who are not sure which of these two categories they are in and whose corporate management probably haven't given it much thought. Without doubt these are the ones most at risk now and in the future.

What are the major factors that influence the bureau market? They are best viewed in terms of marketing and business objectivity, and costing, financing and management.

In marketing terms the bureau business is fiercely competitive — on the one hand, bureaux are competing with each other; on the other hand they face tough competition from the micro and mini computer vendors. Long term objectives aimed at providing services that users want, and the ability to cope in the open market with skilful marketing techniques, are undoubtedly the keys to success.

Certainly the banks, where they have their own commercial bureau subsidiaries, should be in a strong position. They have a sales force — bank managers — of thousands located in almost every town. This sales force costs the bureaux nothing and each salesman already has many captive customers over which he can exert influence.

In this respect sales costs can be reduced and the bureaux can offer their services at lower prices than their competitors. Once effectively in charge of looking after most aspects of a user's business, the bureau's parent is in an even better position to influence the user and to achieve the longer term objectives of integrating day-to-day electronics banking business with the provisions of the further bureau services that they will offer in the future.

It is no small wonder why the big Citicorp banking organisation in the US has pushed so hard to obtain a licence to provide computer services.

But is this unfair competition to the existing computer services business as many people, including ADAPSO, the Association of Data Processing Services Organisations, in the US, are saying?

It is no more competition than we have to face from the hundreds of vendors of microcomputer solutions for business, which some business people are unwittingly rushing out to buy. Too many are misled into believing that introducing computers to a business is easy and cheap.

The response of the bureau to these market challenges must be to ensure that business people properly evaluate the alternatives offered.

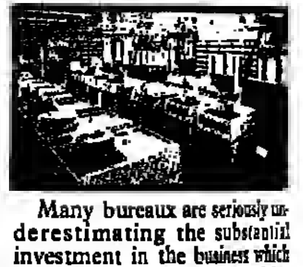
The bureau business can offer solutions for the user based on a micro in his office and linked into the bureau. The wise businessman will at least evaluate the bureau/micro solution. This is where the bureau must be able to come up with the goods — offering the right service at the right price.

Certainly some bureau users are currently not getting a good deal. There are many weaknesses in the offerings of the micro and mini suppliers, but the bureaux need to find these gaps and to capitalise on them with good products and a good service.

Bureaux owned by the major banks and by nationalised industries do not publish full accounts. It is therefore hard to determine whether they are actually profitable. Even if their corporate owners believe they are profitable, they may not be profitable if they take into account their true costings.

There should be more public accountability, particularly with regard to nationalised industry bureaux. There should be publication of full accounts of bureau operations — including an explanation of the costing methods used. After all if they are not profitable, they are being subsidised in one way or another by the general public.

In terms of costing, financing and investment, the halcyon days are over. If hardware manufacturers are prepared to spend billions of pounds on research and development, the bureau must also take it seriously.



Many bureaux are seriously underestimating the substantial investment in the business which is now required. Their pricing structures reflect the fact that they are not costing anywhere near enough for future investment.

It is, or should be, usual practice in any organisation for computer departments to be fully accountable for their costs, yet the procedures for evaluating real costs can be quite complex. Many costing methods are ineffective for today's bureau operations.

Generally, the cost of computing includes: staff; stationery; consumables; hardware rental or depreciation; literature and manuals; training courses; space costs; including stationery storage etc; insurance; maintenance; communications costs; software (packages, systems and programming, and sometimes consultancy); and finally the costs of capital employed and sufficient profit for future investment.

My company uses a technique called "resource costing". Briefly, this is the establishment of multiple rates for the various computer facilities used, and involves breaking down all the resources of the bureau operation into detail such as CPU seconds analysed between the various parts of the system and including all the factors affecting costs.

The bureaux which will survive will be those who are able to provide and afford to provide services based on more powerful and expensive resources. In 10 years time there may well not be a market for, say, sales ledger packages, but there will be a market for services which require mass mainframe and storage utilisation, including data bases and large scale mathematical modelling, and for shared networks and communications facilities.

The financial resources for providing these will have to be catered for and only the larger bureau, except for a few very specialised operations, will be able to handle the requirement. It requires significant continuous investment now.

The combination of efficient management, good marketing of services that are needed in the future, proper costing and substantial investment is what a bureau will need to survive.

Chris Harrison is director of marketing with the GMG Computer Management Group.

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The compact shape and clean design of the MC100 make it acceptable in an executive environment, while its robust construction means that it is equally at home in general working conditions.

D. D. Lamson Ltd (CW), Harbour Road, Gosport, Hants PO12 1BG. Tel: 07017 84271.

Display workstation is compatible with IBM 3X

DECISION Data of the US has launched a display workstation which is intended as an alternative for IBM System/34 and System/38 users.

Decision Data claims that the 3751 Model II is highly productive, more compact, lighter, and costs less than the IBM 5251-11. It is marketed in the UK by Decision Data Computer GB.

The Decision Data workstation has the facility to attach to the IBM System/34 and System/38 either locally, through a port on the controller or remotely through the IBM 5251 Model II or 12 display station.

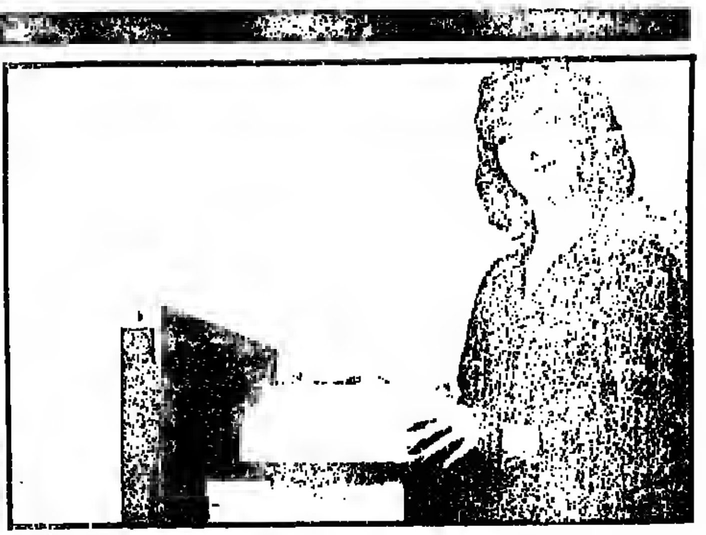
The 3751 Model II requires less than 65% of the space taken up by IBM's 5251-11 Display station, and is one-third of its weight, says Decision Data. These features make it particularly suitable for today's work environment where space and mobility are of prime importance, the company feels.

Further operator conveniences have been designed to make work easier with the tiltable, non-glare, 15" screen which displays sharp, clear characters. Separate brightness and contrast controls, automatic dimming after long non-use to reduce energy consumption and increase CRT life, a convection cooling system and a movable typewriter-style keyboard with palm rests, are aimed at making the workstation comfortable to use and also cost-effective.

Decision Data has also designed many features with the aid of increasing productivity, such as a 25th-line expanded error message and cursor position display, clear message lights and message blinking. Further facilities include multi-national character display, column separator, overstriking capability and a key-pad which is field-compatible with either a calculator or telephone layout.

The company has a nationwide service network to ensure that all users of its IBM plug compatible peripherals have a quick and efficient service.

Decision Data Computer GB (CW). Tel: Staines (0784) 59455.



Flat storage box saves space

FOLD-FLAT Perma Pak storage boxes (above) from Lawtons are designed to be easy to assemble as required and show, says Lawtons, considerable savings in terms of space and cost as compared to a conventional four-drawer steel filing cabinet.

They are suitable for storing printout and cost £8.80 +VAT for four.

Lawtons Limited Stationery & Storage Division (CW), 60 Vauxhall Road, Liverpool L69 3AY.

Turn DEC into IBM

INNOVATIVE Electronics, of the US has announced the MC-80/600-01 communications processor. Emulating an IBM 3274-51C communications controller running configuration support level A, this device converts an inexpensive DEC VT-100 compatible terminal into a full function IBM 3277-1, 3277-2, 3278-1, 3278-2 terminal communicating with the IBM host using the binary synchronous communications (BSC) protocol.

Economical asynchronous Ascii terminals such as the DEC VT-100 can be used in both local and dial-up applications. Full screen mapping is performed by the MC-80/600-01: data displayed on the asynchronous Ascii terminal will be the same as an IBM 3277/3278 display station, with virtual screen sizes of 480, 960, and 1920 characters.

All screen formatting capabilities are supported. These include protected or unprotected alphanumeric, numeric, and non-display fields, character highlighting, and auto-tabbing. All keyboard functions are supported including vertical and horizontal cursor movement, erase, insert, delete 24 program function (PF) and program access keys. Status information is displayed in English at the bottom of the display.

The extensive on and off line diagnostics help in maintenance of the unit. Diagnostic features, provided through a seven segment display, include indications of the device being polled or selected and transmission errors.

Innovative Electronics (CW), 4714 NW 165 Street, Miami, Florida 33014. Tel: (305) 624-1644.

Restful amber screen

USI Computer Products Division has expanded its line of low-cost, high-resolution video display monitors for small business and personal computers with the addition of the USI Pi-4, a monochromatic video monitor with a 9-inch amber display, a company spokesperson said.

Featuring the low-fatigue amber phosphor adopted as a standard by European nations, the USI Pi-4 has 1000-lines at centre resolution with 29 MHz bandwidth.

USI selected the amber phosphor for the USI 9-inch Pi-4 monitor after government and private research had established that amber is one of the screen colours most restful to the eyes. USI management states the research has demonstrated an amber high-resolution display helps reduce eye fatigue among computer users.

Eye fatigue is the major cause of discomfort among computer users, according to published research results, a USI spokesperson said.

The USI Pi-4 has a 44 square-inch (9in diagonal) screen, with a full 80-character by 24 line text display.

Easy connection to every major small business or personal computer is said to be possible.

Sold with a 90-day over-the-counter warranty, all USI Pi-4 monitors receive 100-hour factory burn-in and reinspection before being shipped.

Available from computer stores in the US, the Pi-4 is offered at a suggested list price of $215.00.

USI Consumer Products Division (CW), 71 Park Lane, Brisbane, CA 94005. Tel: (415) 468-4900.

Instant hard copy print

THE TP55 video printer, available from Thandar Electronics, can be connected to any standard video source to provide an instant hard copy record print.

Operating in response to a composite video signal, the TP55 needs no interface. Connection is made via a single coaxial cable. The printer can be used in a wide range of applications. It is particularly useful as an accessory for logic analysers or microcomputer terminals with video output.

All information appearing on the screen can be copied.

The TP55 is priced at £753 plus VAT.

Thandar Electronics (CW), London Road, St Ives, Huntingdon, Cambs. Tel: (0480) 64646.

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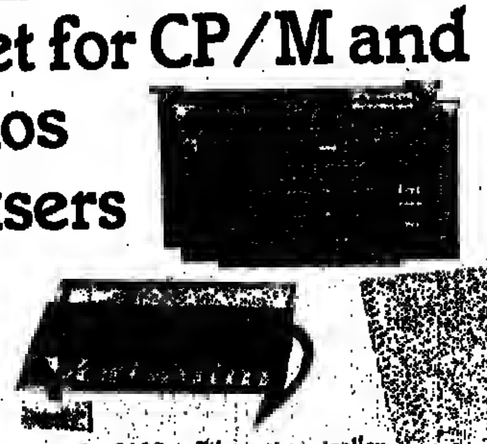

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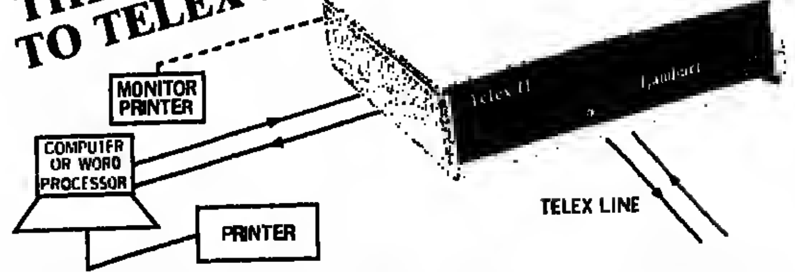

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(1000)

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Applicants should write giving details of age, qualifications and experience, marking the envelope "confidential" to:– T. B. A. Roberts, M.I.M. Holdings Limited, 98 Cannon Street, London EC4N 6EA.

Alternatively telephone (01) 621 0500 for an application form.

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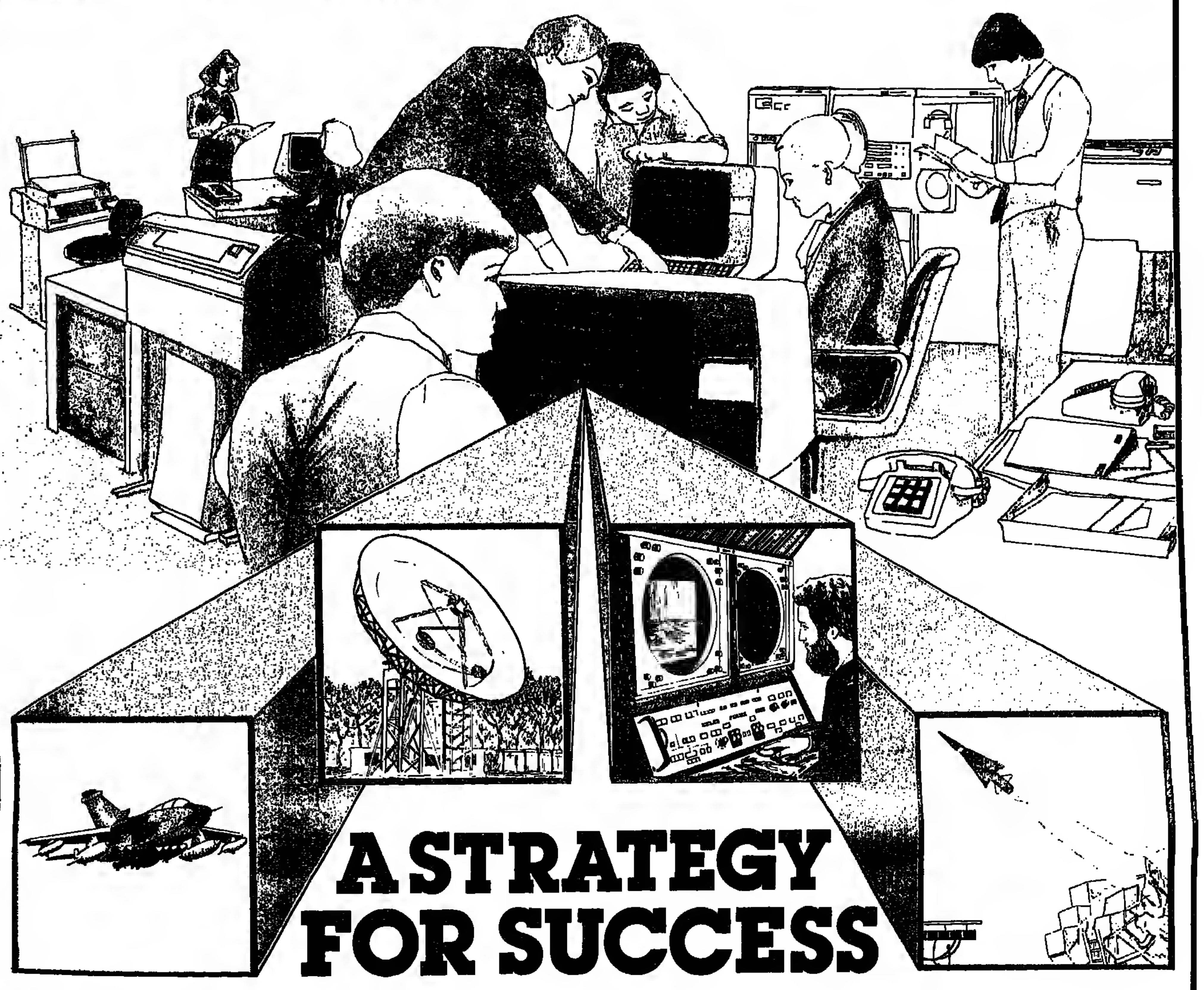

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(1059)

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(1069)

BP Research
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Person Spec. : *Young (21-26) male or female; self-motivated, ambitious; well-educated (pref. degree); about 18 months experience of programming and/or systems design in commercial environment — possibly with software house, computer manufacturer or similar? Hardware, languages immaterial; strong, outgoing personality essential.*

Prospects : *Probable move into front-line sales in short-/medium-term after training, if desired. Alternatively, scope to progress in marketing & support or into other areas of company. Frequent promotion and salary reviews on merit.*

Action: *contact Barry Latchford on the number below or on Newick (082572) 3197 after 7.00 p.m. or write enclosing brief c.v.*

BL

Barry Latchford Associates
Blair House, 7 Hazelgrove Road, Haywards Heath, Sussex RH16 3PH
Tel. (0444) 459815/6/7

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(1074)

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SYSTEMS SUPPORT PROGRAMMER
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Applicants for both positions should have a good background in mini/micro programming using assembler and a high level language. Specific experience with any of the following would be advantageous: Real Time Programming; Data communications; Z80 or 68000; an MDS; Pascal or C. The support position will involve customer liaison and training and applicants should be able to communicate with customer staff at all levels.

Assistance with relocation expenses would be given where appropriate. Contact: Vic Toy or Dave Drury on (0533) 762166/762333, or write enclosing a detailed CV to:

CAMTEC Electronics Ltd.,
Buckland Road, Leicester LE5 0NT

(1111)

CAMTEC

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IBM IMS DB ADF COBOL	Programmers
IBM Systems 38, RPG 3	Programmers
IBM PL1	Programmers
IBM MVS CICS COBOL	Programmers
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DEC VAX 11/780 MACRO 32	Programmers
ICL ME29	Programmers
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(1128)

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SURREY to £9,000

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CITY £High

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The County Council's Computer Unit has recently undertaken additional work through selling its own Computer Software to its client Users and is now seeking additional staff to meet the workload. The following trained and experienced staff are sought to work in the Unit on a fixed term contract of up to two years:

SYSTEMS ANALYST PROGRAMMER

£7,371-£8,733

PROGRAMMERS – GRADE 2

£6,501-£7,137 (Three posts)

A national pay award is pending. The County Council operates a 37 hour week and flexible working hours. Normal conditions of service will apply including full sick and pension benefits for the period of employment.

Further job details and application form (returnable by 15 October from The Head of Computing and Management Services, County Hall, Maidstone, Kent. (Tel: Maidstone (0622) 671411 Ext 4126).

(1117)

KENT COUNTY COUNCIL

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★ Adabas Natural	Analyst/Progs
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★ OS, COBOL	Programmers
OS, PL/1 (CICS)	Programmers
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5280 RPG	Analyst/Progs
★ Sys. 38, Banking Exp.	Analyst/Progs

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1900, G2 VMEB COBOL CONVERSION	Programmer Analyst/Prog
★ ME29 TME TP COBOL	Analyst/Progs
2900 VME	Analyst
2900 VME	Designers
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VME 2900 COBOL	Programmers – Birmingham
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The person required will be responsible for planning and directing the efforts of a project team with 10 to 12 staff. The project team will be responsible for defining user requirements, developments and implementation of systems.

Whilst it is envisaged that applicants will have extensive systems and programming experience, managerial ability is a key consideration. The Project Manager will be expected to play an important part in providing the company with increasingly sophisticated Data Processing systems. It is likely that the person required will be aged 30-40, and have at least seven years' relevant Data Processing experience, some of which will have been gained in IBM installations.

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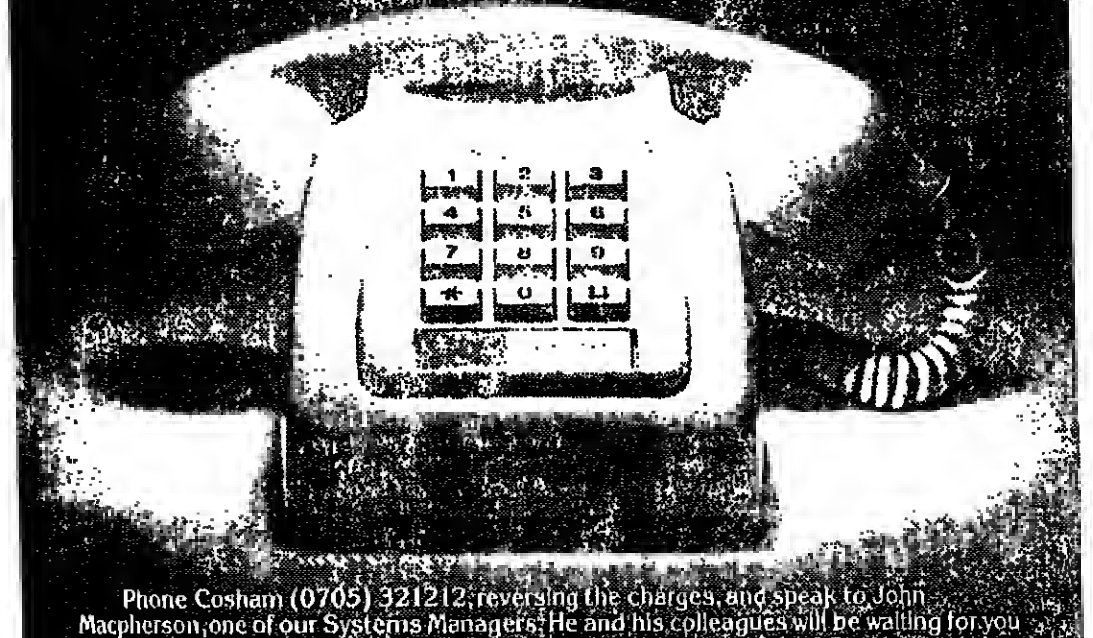

Phone Cosham (0705) 321212, reversing the charges, and speak to John Macpherson, one of our Systems Managers. He and his colleagues will be waiting for you to call between 8.30 a.m. and 6.30 pm. on the 5th, 6th, 7th and 8th of October, and also on Saturday 9th October between 9.30 a.m. and 12.30 p.m.

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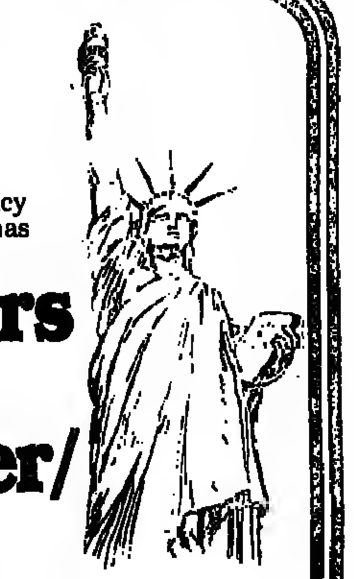
Applications in writing stating name, age, experience and qualifications to the Computer Manager, Central Regional Council, Viewforth, Stirling by Sunday, 10 October, 1982.

(10621)

JBA



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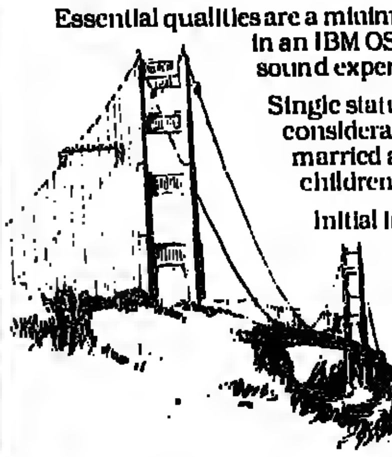

Single status is preferred but equal consideration will be given to married applicants without children.

Initial interviews will be held in London in early October.

Contact:
Christine Scaldwell

James Baker
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The emphasis on Communications has created a NEW POSITION in our Software Development Section. This Senior appointment will be of interest to an experienced Software Engineer who has a good working knowledge of minicomputer based communications software specifically on DEC PDP 11 and VAX machines.

We have a flexible attitude towards this appointment and provided that Candidates can claim sound systems programming experience in MACRO 11 and a high level language such as RTL2, CORAL, PASCAL or 'C', we would be interested in meeting them. Experience in operating systems such as RSX, VMS or UNIX would also be an advantage, although training would be given where necessary.

The successful applicant can expect a steep learning curve over the course of the next year as we introduce and expand SL10/X25 networks and integrate existing networks. Skills in interfacing to a wide variety of machines and terminals will be developed encompassing X25, SNA, DNA and 3270 emulators. Additionally, individuals with a keen interest in local area networking would find opportunities for research and development in the near future.

Candidates who feel they could make a contribution in a key area of our Company's growth should initially telephone **ALAN CARNELL** on **021-236 3781** (24 hour answering service) or 021 784 6063 (Evenings and Weekends).

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The development of ever-more powerful and versatile computer hardware and software is an integral and essential part of the UK's defence strategy. From the operation of aircraft, through weaponry control, to remote image sensing, and training, the range of applications is vast. High priority is given to the development of advanced systems to maintain efficiency and increase the effectiveness of large and sophisticated military organisations.

One such project is the substantial expansion of data-processing facilities at RAF Brampton, which creates excellent opportunities for senior scientific computer staff to work on the design, implementation, and maintenance of information systems, data-processing, operational systems, and mathematical and modelling applications. Present facilities include ICL 2900 Series and DEC PDP/11 systems using on-line and batch processing technologies. As well as being involved in major 'live' projects, successful applicants will participate in the evaluation of future development needs.

Candidates should be experienced in one or more of the following: systems programming; computer operation; applications programming; systems analysis/design. Experience of current generation ICL and DEC hardware and software and knowledge of COBOL, FORTRAN, GEORGE III, DRIVER or DME/VME would be advantageous.

Chief Programmer

To lead a team of programmers planning, writing and testing programmes for a wide variety of scientific and DP applications. The design of programming systems, preparation of detailed specifications, and the definition and maintenance of standards will be among the responsibilities. The successful applicant will also play an important role in future developments. *Salary* (Senior Scientific Officer) £8595 – £10965.

Chief Systems Manager

To lead and develop the team operating this extensive and expanding computer configuration. Responsibilities will include the management of operating software, commercial and contract packages etc, the implementation of new applications, and planning for future requirements. *Salary* (Senior Scientific Officer) £8595 – £10965.

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To plan, write and test programmes from outline designs produced by systems analysts. Also, to be responsible for directing and managing junior programmers. *Salary* (Higher Scientific Officer) £6840 – £9125.

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Location: Brampton is in a pleasant rural area within easy reach of Bedford, Cambridge and Peterborough and close to a fast train service to London.

For further details and an application form (to be returned by 22 October 1982) write to Ministry of Defence, CM(S) 1b3, Room 310, Savoy Hill House, Savoy Hill, Strand, London WC2R 0BX. *Please quote ref: SA/21/FMA.*

Scientific Civil Service

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This is an excellent opportunity for a professional Marketing Manager, with experience of the electronics industry, to further his/her career in a fast expanding company with very real prospects for the future.

Reporting directly to the Managing Director, you will assume responsibility for the company's short and long term marketing policies, as well as making an important contribution to the overall company strategy.

Educated to degree level, the right candidate must have experience of technical marketing of electronics, preferably with a microprocessor base, and be conversant with modern management techniques.

In addition to an excellent salary, car and other benefits as associated with this level of appointment, there is opportunity for a directorship.

Please write in the first instance, enclosing a full c.v. to the company's advisors, Mercuri Urval Ltd., Six Acre House, Town Square, Sale, Cheshire M33 1XZ quoting reference 948.

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Contact: Paul Child

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Contact: Ken Allwright

Link into tomorrow's grapevine by calling Ken Allwright or Paul Child on Windsor (07535) 56155 or writing to Kramer Westfield Associates Ltd., 31 Peascod Street, Windsor, Berks. SL4 1EA

Kramer Westfield

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JBA

OVERSEAS

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The South African subsidiary of a well known international organisation is seeking to expand their software development team to meet the needs of a rapidly growing market.

Vacancies exist for a number of Technical Programmers with varying levels of experience to work on the development of industrial control systems. Candidates may choose either a one or two year contract period with an option for a permanent relocation thereafter.

Applicants should have a numerate qualification and a background in technical programming, ideally involving control systems. Specific Hardware/Software experience is not too important but familiarity with DEC mini computers, MACRO 2 and/or CORAL 66 would be relevant.

Contact: Bev Stevens in Birmingham

Analyst/Programmer
Paris **100,000 – 120,000FF**

Our client, a leading International Computer manufacturer, wishes to appoint an ANALYST/PROGRAMMER in their Internal Systems Development team. The group has significant plans to implement a number of commercial applications over the next year or so. Applicants should have at least two years' as a programmer working with minicomputers. Experience with Accounting, Database and On-line Systems would be a distinct advantage.

Contact: James Baker in London

Project Leader
Paris Suburbs **c180,000FF**

A well established commercial organisation located in the suburbs of Paris wish to recruit a Project Leader to take full responsibility for the development of new accounting and finance systems.

Candidates must have at least five years' experience in the design and implementation of accounting applications in an on-line minicomputer environment.

A background of Database and Terminal based systems is essential and some knowledge of DEC or HP would be an advantage. A good fluency in English is considered important.

Contact: James Baker in London

Senior Analyst/Programmer
Europe **£10 – £12K + Expenses**

Our client is developing a number of on-line minicomputer systems which require on-site work and implementation.

We are therefore looking for a dedicated professional who would like to work in various countries in Europe for prolonged periods.

Applicants, preferably single, should have at least three years' experience in the design and programming of accounting applications on minis.

Knowledge of Siemens 75XX and ability to speak German would be a positive advantage.

Contact: James Baker in London

UNITED KINGDOM

PL/1 Programmers
Northern Home Counties **£9,000 to £11,500**

Our client is the development group of a large international organisation. They are currently developing some very sophisticated and interesting systems on their network of IBM mainframes.

The immediate requirement is for PROGRAMMERS with up to three years' experience of PL/1 in an MVS, TSO/SPF environment. Knowledge of BAL, DL/1 or VSAM would be considered an advantage.

This is a genuine opportunity to work in challenging projects using state-of-the-art techniques. Excellent career prospects.

Contact: James Baker in London

Pre/Post Sales Support – Hardware Manufacturer
Based in Manchester area **£excellent + Car**

A rapidly expanding office automation company currently has a vacancy for a Pre & Post Sales Analyst/Consultant for the North West.

The position offered will be of interest to computer professionals aged up to 35 with a background of at least 5 years' in Office/Data processing.

Candidates should have an understanding of high level languages – such as RPG 2 & COBOL – acquired in a commercial environment, they should also have an outgoing personality and the ability to converse with clients in an articulate, knowledgeable manner about their hard and software requirements.

Salary will not be a problem for the right person and benefits will include a car, BUPA, free life insurance and relocation assistance where appropriate.

Contact: Steve Wootton in Birmingham

Analyst/Programmers
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JENSON COMPUTER SYSTEMS, a Systems House specialising in the provision of a range of services to professional practices, wishes to recruit 2 Analyst/Programmers to work on applications covering Financial Ledgers, Time Recording, Solicitors Accounting and Word Processing systems, based around DEC computers.

Applicants must have a detailed knowledge of BASIC and be able to demonstrate good oral and written communication skills. A knowledge of RSTS, VAX or RSX, or of MACRO – 11 is also desirable.

Contact: Vicki Billington in Birmingham

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If your career is stagnating in the recession hit Midlands and North you could really open up your potential with these opportunities in the Thames Valley. Our client is seeking skilled COBOL, CICS and DL/1 Programmers to work on a variety of technically stimulating projects.

Candidates should have a minimum of 2 years' relevant IBM experience and the potential for more responsibility.

In addition to an above average salary (+ benefits) the company will also provide a 1st class relocation package.

Can you afford to miss the chance to get your career moving again?

Contact: Bev Stevens in Birmingham

Systems Engineer
West Herts **to £11,000**

Our client, who have established themselves as one of the most progressive computer manufacturers has built a successful Systems House within the Company which specialises in designing high technology systems and providing consultancy advice to customers.

Continued expansion has created a new opportunity within the hardware and systems team for an experienced Engineer whose skills include Logic design, computer interfaces and micro processors. It would be an added advantage to have worked on communications systems.

Candidates will ideally possess a degree and have at least 3 years' experience in the planning, design and implementation of complex hardware systems. A working knowledge of Software coupled with proven ability of working successfully in customer situations is essential.

Contact: Margaret Stevens in London

S34 Analyst/Programmer
Herts **£9,000 – £10,000**

We have been retained by the European Division of an extremely successful international manufacturing organisation, to recruit an Analyst/Programmer to work on the development of commercial applications for user companies both in the UK and on the Continent.

Applicants must have at least eighteen months' experience with GSD systems using RPG2 in financial, accounting or manufacturing environments. Ability to work with Senior User Management in implementing new applications is essential.

Excellent career opportunities and the chance for European travel.

Contact: James Baker in London

Project Leader **to £13,500**
Programmers **to £9,500**
City

Our client, an expanding Systems Company, is seeking highly motivated personnel capable of fitting into a group which has been set up to provide Consultancy to the Banking, Stockbroking and Commodity worlds.

PROGRAMMERS must have at least 2 years' BASIC + on DEC PDP11 or VAX equipment. It would be a distinct advantage to have gained this experience in a Software House environment.

Candidates for the PROJECT LEADER position should have proven project management experience which will include budgetary & technical control of all phases of at least one major mini system. A minimum of 4 years' in systems analysis with a programming background is required, coupled with expertise in one of the specialist financial areas mentioned above.

Contact: Margaret Stevens in London

Customer Support
London **£neg.**

Our client, a well established Systems House, requires staff to support one of their Accounting systems.

The role of CUSTOMER SUPPORT CONSULTANT involves both pre and post sales activities including systems implementation, customer education, day to day support and troubleshooting.

Candidates must have a good technical background and preference will be given to those with payroll experience.

Extensive travel throughout the U.K. is involved and an excellent benefits package includes a company car.

Contact: Christine Scaldwell in London

MVS Systems Programmers
London & Home Counties **£11K +**

We are currently looking for experienced SYSTEMS PROGRAMMERS to fill a number of positions in London and the Home Counties.

Our clients urgently require self motivated applicants with a strong IBM background to work in an MVS environment.

A minimum of 2 years' Assembler is essential. A good knowledge of IMS, CICS, DL/1 or any Database language will be a definite advantage.

So, if you feel you would benefit from a more professional and progressive employer, telephone without delay, or write enclosing a full C.V.

Contact: Alan Green in London

Analyst/Programmers
London **to £12,000**

Our client, an International Oil Service Company, is seeking a number of ANALYST/PROGRAMMERS to work at their Covent Garden offices. Candidates, preferably graduates between 23-30, should possess a sound working knowledge of at least one of the following:

★ RPG11 on IBM System 34
★ COBOL on IBM 370 under DOS/VS
★ BASIC on IBM System 23

This is an excellent opportunity to work on development projects. A good salary and fringe benefits are coupled with excellent career prospects.

Contact: Christine Scaldwell in London

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ANALYST PROGRAMMERS	COBOL IBM/HP/ICL ME29	to £10K	W. London/Surrey
SOFTWARE ENGINEERS	FERRANTI/ARGUS	to £12K	Berks/Essex/Surrey
SOFTWARE ENGINEERS	Winchester Drives/Control Systems	to £12K	Home Counties
SYSTEMS ANALYST & PROGRAMMERS	On Line exp/VME8 or K/or George 3	to £11K	Surrey/East Anglia/Bucks
SOFTWARE DESIGNERS	COBOL/PASCAL/RTL2	to 13K	Sussex
SYSTEMS PROGRAMMERS	IBM/Burroughs	to £14K	London/Home Counties
ANALYST PROGRAMMERS	IBM/COBOL/VM/CMS/VSAM	to £10K	Manchester/Croydon
ANALYST PROGRAMMERS	Dec/Dg/Wang/Basic/Prime	to £12K	Wales/Home Counties
HARDWARE DEVELOPMENT	Controls/Winchester Disks Drives & Systems	to £12K	Home Counties
SOFTWARE ENGINEERS	RADAR/Military/ATE/CORAL Mascot/Bates	to 11K	Surrey/West Country Home Counties
PRINCIPAL CONSULTANTS	Commercial Software exp/Accounting qualifications Data General COBOL	to 15K	Berks.
PROGRAMMERS	Commercial/Manufacturing	to £14K	N. England/London/Home Counties
ENGINEERING MANAGER	Winchester Disk Drives	to £15K	Home Counties
PROGRAMMERS CAD/CAM		to £16K	West Country/Essex
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(1121)

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N. Bucks c£10K

Our clients have successfully completed the installation, during 1981, of a terminal network linking all their Regional Offices to their ICL Mainframe Computers at their Headquarters in Buckinghamshire. On-line systems are in operation for accounting, stock control and payroll and they are now embarking on a major new development using TOTAL & TPS.

Other packages in use include PROSPER & UNIPAY.

A new position has been created, for a technically biased person to provide support to the Operations and Programming sections.

The successful applicant will probably have four or five years' experience as a programmer and should have a sound knowledge of ICL standard software, preferably including GEORGE 2 and TME operating systems. TPS experience would be a distinct advantage and any database or comms experience would also be an asset.

Duties will include providing diagnosis and solution of day-to-day problems with new and operational software and advising and assisting with the use of operating system software.

In addition to generous salary, the Company operates a profit-sharing scheme, flexitime, subsidised canteen and sports facilities.

For further information contact:-
Chris Chehade
HOWLETT COMPUTER SERVICES
FREEPOST
Leighton Buzzard
Bedfordshire LU7 7BR
Telephone: 0525 384735/382555
or 029 872 221
evenings/weekends

(1083)

SENIOR SYSTEMS PROGRAMMER

S.E. London c £12,000 + Benefits

- **World leader in product range**
- **Advanced and progressive installation**
- **Complex on-line network**
- **High level of responsibility, wide scope**
- **Relocation assistance where appropriate**

A major British group with subsidiaries world-wide and current turnover in excess of £130m per year wishes to recruit an ambitious Systems Programmer to play a significant role in the development and implementation of a number of advanced software systems.

Currently, an IBM 4341 is installed at Head Office with remote IBM 4331's in the divisions. Future plans include further development of the large communications network and the provision of database software.

The position will interest candidates with a sound knowledge of Assembler in a DOS Environment. Current software installed includes CICS, VM, VSAM and full on-line program development. In addition, candidates must be versatile, have a problem solving ability and the enthusiasm to become actively involved in this technically challenging environment.

The position provides genuine future prospects for career advancement within this successful group. In addition to an attractive negotiable salary, the benefits package includes BUPA, 5 weeks holiday and flexible working hours. Assistance will be given with relocation expenses where appropriate.

For more details of this position, please telephone or write to Andrew Cousins.
Initial interviews will be held in Central London.

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Tel: Reading (0734) 595346

SPL International is one of the World's leading professional service companies working in the fields of computing and communications. There are 3 U.K. offices in the U.K. with the head office located in London and 5 subsidiary and associated companies based overseas. Nearly 50% of revenue is achieved through the overseas operations. Continuing expansion generates the need for experienced and suitably qualified personnel in the following areas.

Command Control & Communications

Salary range to £13,000 + Benefits

Since gaining the 05.21 assessment, an increasing number of interesting projects have been undertaken in the Government, defence and communications areas. The growth of this sector was recognised earlier this year when a new Division was formed specifically to develop this market.

Real Time Analyst & Designers

Experience should ideally include analysis or design of high reliability real time systems incorporating large databases. Some familiarity with Tandem hardware or ICL communication's protocols would be ideal.

Specific areas of involvement could include design of system wide aspects of large, complex transaction oriented systems, e.g. Intercomputer communications, file maintenance, house keeping, etc., and involvement in system wide recovery procedures. Some applications design experience on non military command and control type systems could be very useful.

Software Test Analysts

A small team of Analysts will be responsible for developing test strategies and planning for the delivery and acceptance to end users of large, complex high reliability software. A systems and/or programming background on mini or mainframe hardware related to real time or on-line software/technical applications is required. Specific experience in the test and acceptance area is desirable but not essential.

Senior Programmers

Several opportunities exist within the Division for programmers, senior programmers and team leaders with 3-5 years' programming experience, including some time spent on real time/on-line systems for commercial, technical, military or defence applications. For one project COBOL experience gained in a real time environment would be very useful. Opportunities exist on Tandem based systems – training will be given when required.

Quality Assurance

Salary range to £13,000 + Benefits

TWO ANALYSTS are required to join the Quality Assurance division which provides company wide support in ensuring that both software and hardware systems are developed in line with company standards and to the requirements specification. The main areas of involvement will cover applications and systems software for both commercial and technical systems and Q.A. experience in these fields either with a computer manufacturer or with a defence contractor would be very useful. Positions are London based although there is one requirement in Southern Europe at the present time for a period of 1-2 years.

A SENIOR OPPORTUNITY also exists within the division for a candidate with considerable and relevant Quality Assurance experience for which there is scope to negotiate an attractive remuneration package.

Applicants will ideally be educated to degree level, have relevent applications experience and be willing to undertake some international travel from a London base. Appointments will be made within salary scale up to £13,000 plus, generous fringe benefits although this figure may be negotiable.

SPL INTERNATIONAL

SPL International

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For further details and information please contact Roger Allington our advising consultant, on 01-493 2947 (day/ansaphone) or if more convenient Little Gaddesden (044284) 3536 (evenings/weekends) or write quoting Ref. 9930.

DALROTH & PARTNERS LTD., 4 HALF MOON STREET, LONDON W1.

(1091)

PROGRAMMERS and ANALYSTS
$26,000 – $38,000

Programmers and Analysts particularly with a sound knowledge of **PL/1** and **IMS** are required to join our existing staff in **HOUSTON, TEXAS** early in **1983.** Assignments will be on a one year renewable contract. All the usual fringe benefits associated with an overseas assignment including air fares and medical insurance will be provided

For further information please contact Don Bell or
Carol Evans at our International Headquarters in Egham

PE

P-E Computer Services Limited

Park House, Wick Road, Egham, Surrey TW20 0HW Tel: (0784) 34411

(1088)

Borough of Poole

BOROUGH TREASURER'S DEPARTMENT

COMPUTER MANAGER

Salary Grade PO1 (2-6) £9,261-£10,275 (pay award pending)

The council operates an ICL ME29 linked to a remote ICL-2976. It has been decided to make major new development in systems to operate both locally and on the remote mainframe with most applications being online.

Applications are invited from persons who have had considerable experience in designing, programming and implementing TP systems, and have experience of ME29 or 2903 series machines with TME using COBOL, to lead a team on these developments.

The Council offers assistance towards the cost of removal expenses, lodging allowance, legal and estate agents' fees, and a disturbance and travelling allowance is also paid. In certain cases, at the discretion of the Authority, the above allowances may also be applied to single officers.

Application form and further details obtainable from the Chief Personnel Officer, 8 Commercial Road, Parkstone, Poole, Dorset (Tel: Poole 675151, ext [illegible]) returnable by [illegible] October 1982.

I. K. D. ANDREWS
Town Clerk & Chief Executive Officer.

(1083)

Operations Supervisor/ Network Controller + Shift Leader

HONEYWELL DPS 8/44
Negotiable Salary **South Manchester**

We are looking for experienced operations personnel to fill these key positions. The Operations Supervisor/Network Controller will be responsible for the day-to-day running and network control and the Shift Leader for the on-shift running (two shifts) of our busy computer network.

The network comprises a central DPS 8/44 with 10 Level 6 mini computers supporting over 100 terminals in 13 locations and includes high-speed modem and multiplexor links.

The successful candidates will be good communicators with several years' operational experience on Honeywell L66 or DPS8 equipment using GCOS and ideally will have knowledge of telecommunications.

The offices are situated in a pleasant area of South Manchester and the company offers a competitive salary together with conditions of employment appropriate to a major international firm.

Please send detailed c.v. to:

M. J. Officer
Personnel Manager
Simon Engineering plc
PO Box 31
Stockport
Cheshire
SK3 0RT

(1095)

simon

THE UNIVERSITY OF ASTON IN BIRMINGHAM
Microprocessor Unit

LECTURERS

Applications are invited for two lecturer posts in the University's Microprocessor Unit and associated with the Department of Electrical and Electronic Engineering.

The role of the Microprocessor Unit is to provide a University central resource for the design, development and support of microprocessors and related engineering and computerised systems. It provides undergraduate and postgraduate courses, projects and research. The Unit maintains close links with Industry, providing Industrial short courses and undertaking consultancy.

The lecturers appointed will be expected to undertake general teaching duties in the Department of Electrical and Electronic Engineering in addition to participating in the work of the Microprocessor Unit. The posts should provide excellent opportunities for research.

Applicants should have research interests related to microprocessor applications and experience relevant to Electrical or Electronic Engineering. Candidates should preferably have a higher degree and/or industrial experience.

Salary will be within the range £6375 to £13505 per annum and the appointments will be for a period of three years.

Application forms and further particulars may be obtained from the Staff Officer (quoting Ref 525/102) University of Aston in Birmingham, Gosta Green, Birmingham B4 7ET (Tel 021 359 3611 Ext 4564). Closing date [illegible] October 1982.

Signalling Designers for London Transport

Are you beyond the "Space Invader" programming groove?

If so, we want you to help us design the advanced and complex signalling circuits for London's Underground railway.

Currently, a substantial modernisation and new works programme is in progress and we are looking for Electrical Designers to undertake this work. Naturally, safety is the important criterion and we provide extensive training in signalling techniques for those with suitable aptitude. Increasing use is being made of the latest technology, in particular the application of computers and associated devices.

It's a secure future, too, and the working conditions are good at our offices adjoining Acton Town Station. You should have a good knowledge of the principles of light electrical engineering and experience in their application. A knowledge of computer applications and programming would be desirable. A minimum qualification of an appropriate O.N.C. is essential. In return we offer a starting salary of £7,221 with potential on promotion to £9,483. You can also travel free on London Transport services at all times and receive valuable concessions on British Rail for you and your family.

LONDON TRANSPORT

Phone Mr M. G. Crosbie on 01-992 7801 (ext. 40) for further information, or write to Personnel Officer (Railways), Room 803, London Transport Executive, 55 Broadway, London SW1H 0BD, quoting Ref. No. RVE 3028.

(1092)

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Your microprocessor h/ware and s/ware knowledge combined with general manufacturing/production control systems involvement could secure you a consultant's position within a leading British applied technology organisation. (GT 3924)

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Your communicative gregarious personality and IBM systems/s'ware expertise could secure you this rare opportunity to join the new client services Dept. within a major system software organisation. (JA 3950)

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Systems/Business Analysts – utilise your banking expertise in a project management role – develop new worldwide retail/wholesale banking systems. Overseas travel plus usual banking benefits. ([illegible] 2816)

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Middx **To £9K**

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Be at the forefront of DP in an idyllic environment with this prestigious Financial Co. who require your PL/1 background and 3 yrs. + financial systems exp. Generous relocation, 5% bonus, FREE Life Assurance. (RD 3789)

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International Bank have career opportunities for your 2 yr. + COBOL and Financial/Banking sys. exp. gained in IBM DOS/IMS env., and offer good educational, social, leisure facilities plus relocation and financial benefits. (RD 2563)

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Two yrs. IBM, TSO + Fortran, user exp. of time sharing systems, a knowledge of French pref. to assist clients [illegible] systems software, provide [illegible] tion and evaluate new [illegible] successful bureau. ([illegible])

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(1077)

01-404.0152

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ComputerWeekly

Special Recruitment Feature

OCTOBER 14 ISSUE

Opportunities in the MIDDLE EAST

This feature will report on the increasing and wide ranging job opportunities in the Middle East countries for both permanent and temporary assignment positions. As with all Computer Weekly recruitment features, this report will appear within the "appointments" section of the newspaper and relevant advertisements will be positioned beneath an appropriate strap line.

Computer Weekly continues to increase its coverage of the computer industry. Circulation for the first six months of 1982 averaged *100,263 copies every week. More important than the overall circulation level is the journal's dominance among the key job moving categories. With Computer Weekly, you reach MORE Analysts/Designers, MORE Programmers and MORE Operations staff than our nearest weekly competitor.

If you are recruiting for the Middle East, then don't miss the October 14 issue of Computer Weekly. The editorial environment is perfect, your target audience is captive, and, with Computer Weekly's large circulation, you can be sure your advertisement will be read.

Copy deadline is Monday October 11
To reserve space phone your nearest Computer Weekly Classified Office
London: (01) 661 0121
Manchester: (061) 872 8861
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ComputerWeekly

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Surrey SM2 5AS

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UNIVERSITY OF ESSEX

TEMPORARY LECTURER

in the Department of Computer Science

Applications are invited for a Temporary Lectureship for one year from 1 October, 1982. Salary will be in the range £6,375-£11,105. The person appointed will assist in the teaching of computer and microprocessor systems. Assistance is required in teaching and/or in research into methods of teaching modern computer architecture at first-year level. Applications are principally sought from candidates with practical experience of computer hardware and an interest in developing new software and hardware tools for teaching computer architecture and logic design, but consideration will also be given to candidates with interests in other aspects of computer systems. Applicants should have a good first degree in Computer Science, Electrical Engineering or a related subject.

Applications (3 copies) including a curriculum vitae and the names and addresses of 2 referees should reach the Registrar (AG/142/CW), University of Essex, Wivenhoe Park, Colchester CO4 3SQ, by 14 October. For further details please telephone 0206 862286 and ask for Dr. Standevan (extension 2309).

Surrey Education Committee
North East Surrey College of Technology
Reigate Road, Ewell, Epsom
Surrey KT17 3DS

Applications are invited for the following post to be filled as soon as possible:

LECTURER I IN COMPUTING

Applicants should possess formal qualifications in computing and have a sound knowledge of COBOL together with teaching or data processing experience.

Salary: LECTURER I: £5385-£9267
Plus £231 p.a. London Fringe Allowance
Generous relocation expenses in approved cases

A stamped addressed envelope please for further particulars and application forms from the Vice-Principal.

(1126)

As the European subsidiary of one of the world's fastest growing manufacturers of computer peripheral printers we have, since our formation in 1978, built up a multi-million pound turnover, serving the markets of the UK, Europe, Africa and the Middle East.

We are now introducing an exciting new range of printer products to take us into wider fields of application and have an immediate opening for a

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This is a key appointment, covering a significant part of the UK, selling both to major OEM customers and through a vigorous and expanding Distributor/Dealer network.

The successful candidate should ideally have a minimum of 2 years experience in selling computer peripherals and direct experience with a printer manufacturer would clearly be an advantage.

Remuneration will be by an attractive base salary together with unlimited commission on sales. A company car will be provided.

Please write in confidence with full details of career to date, to Peter Brown at the address below:-

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We'll stretch your brain cells further than you ever thought possible, as a member of a small development team with a brief to think at least a year ahead.

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So we don't waste each others time, 'phone first for a chat with John on 01-351 0129.

(1060)

Experienced Programmers

up to £11k: South Bucks

Develop your career in our major development programme

AMERSHAM INTERNATIONAL is a world leader in the supply of sophisticated technical products for use in medicine, research and industry. Operating on a world-wide basis, ours is a fast growing high technology company offering a stimulating and unusual working environment.

The expanding business calls for a rapid expansion in corporate information systems resources to meet the needs of an ambitious systems development programme.

We are now looking for experienced Programmers to contribute towards the development of a range of on-line data base systems for a distributed processing environment.

Candidates should possess:

★ At least 3 years' programming experience
★ Team leading experience on at least one project
★ Experience of data base and on-line systems development
★ Knowledge of modern programming techniques eg. Jackson
★ Extensive COBOL language experience

We currently operate an ICL and HEWLETT PACKARD based network using the IDMS and IMAGE data base systems. Experience with these product ranges would be advantageous.

We offer an attractive benefits package which will include help with relocation expenses, where appropriate.

Please contact Mrs. Joan Cook on Little Chalfont (02404) 4444, ext. 3570 for an application form or write to her at the address below with full career details.

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Amersham

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(1056)

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Please write—in confidence—to Dr. John Viney, ref. FY. 17577, MSL Electronics, Management Selection Limited, 52 Grosvenor Gardens, London SW1W 0AW.

These appointments are open to men and women.

MSL ELECTRONICS

(1058)

BOX NUMBERS

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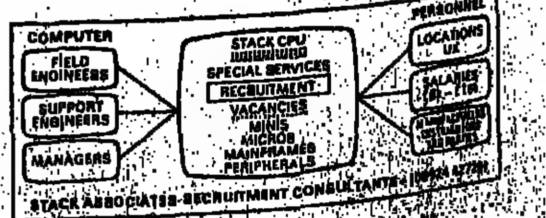
The Quadrant
Sutton, Surrey SM2 5AS



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A New Opportunity

Kraft Foods Limited, part of one of the world's largest and best known food groups, market a highly successful range of products including many brand leaders. A substantial investment has been made in computer hardware and there is a continuing commitment to expanding the range of in-house computer services.

There is now an exciting new opportunity for an experienced Database Specialist to take responsibility for testing, installing and maintaining databases and database software and to liaise with and advise development staff. An IBM 4341 model group 1 is currently operated, this is being upgraded to model group 2 in 1983.

Applicants male or female, must have a sound knowledge of IMS DB and it would be a distinct advantage to have a working knowledge of VM, VS1 and CICS. The ability to communicate with Applications-orientated D.P. staff and the more technical D.P. staff is also required.

An excellent starting salary will be offered to the right person along with a wide range of benefits appropriate to this large and successful company.

If this is the challenge you're looking for please telephone in the first instance for an application form to:

The Personnel Officer, Kraft Foods Limited, St. George's House,
Bayshill Road, Cheltenham, Glos. GL50 3AE.
Telephone: Cheltenham (0242) 35101 Ext. 552.

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You would be responsible for operations during a shift; initiating systems; monitoring input and distributing output; informing users of system status and taking corrective action on central hardware or on a communications failure.

With your HNC or GCE 'A' levels you must have 2 years operating experience including at least one year on a DEC PDP 11/70 installation.

The tax free salary of SR 80,500 p.a. will be paid in Saudi Riyals. The conversion to sterling has been effected at the rate SR 5.9 = £1.

Benefits include free accommodation, 49 days annual holiday, free return flights to the UK and free medical care. Facilities include shops, gymnasium, theatre, swimming pool, tennis courts and restaurants.

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For further details please phone Alexander Sneddon on 01-574 5432 or send your cv to him at IAL, Aeradio House, Hayes Road, Southall, Middlesex, UB2 5NJ. Please quote ref. M496.

IAL
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London Borough of Enfield
Education Department
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The following are required from 1 January 1983 or earlier if possible

LECTURERS Grade II

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Salary Scales (including London Allowance)

LECTURER Grade II – £7,404-£11,571

The initial placing on this scale depends on qualifications and experience.

Application forms and further details (see marked with job reference) obtainable from the Principal, Southgate Technical College, High Street, Southgate, London N14 6BS, to whom they should be returned within 14 days of the appearance of this advertisement. (1114)

LOUGHBOROUGH
UNIVERSITY
OF TECHNOLOGY

SYSTEMS AND PROGRAMMING MANAGER

The Computer centre provides a service to all departments of the University based on a multi-Prime interactive system and an ICL system. There is also considerable development of networks and in the use of microcomputers. The ICL system will be replaced in 1983 by a large scale general purpose computing system.

Applications are now invited for the post of Systems and Programming Manager from graduates with extensive experience of the development and use of software in a wide range of systems and applications. As well as providing leadership and co-ordination it is equally important that the applicant should be prepared to work on his or her own projects. Starting salary within lower half of the scale £12,920-£16,180. Further details and application forms from Paul Johnson, Establishment Officer, ref. 82/19CC.

Loughborough *Leicestershire*

(1108)

ComputerWeekly

Copy for classified advertisements should be received by 3.30 p.m. Monday prior to Thursday publication. Advanced space reservations are advisable and should be made on the appropriate number given below:

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We are building the next generation of Videotex Systems based on networked Tandem and Vax minicomputers and 16-bit microprocessors.

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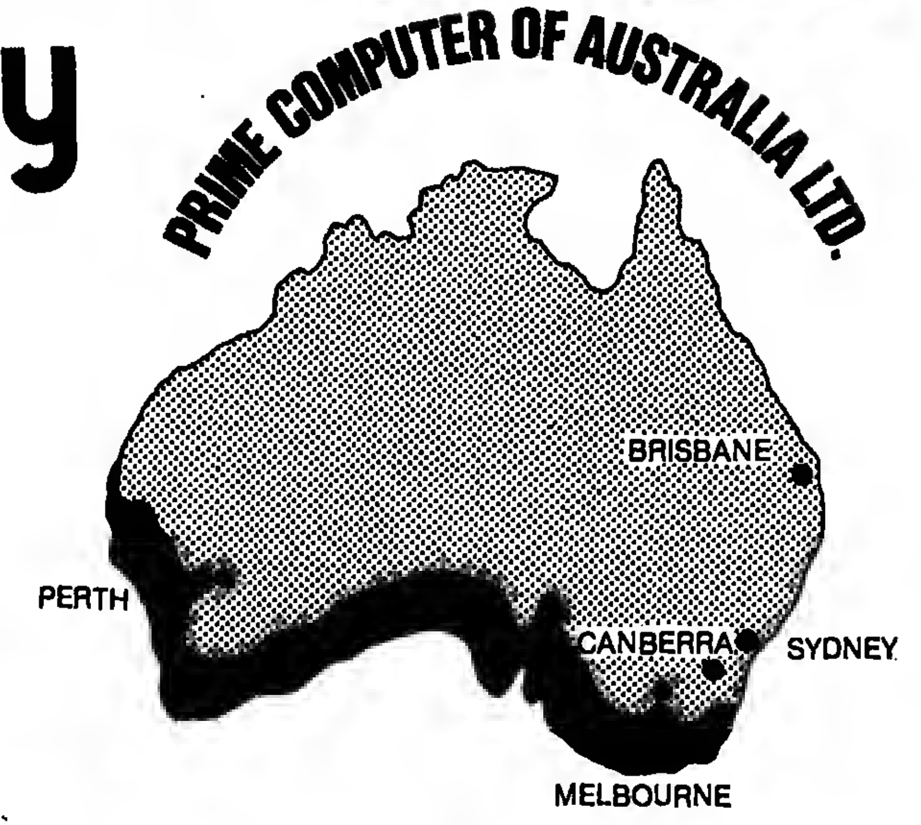
SYSTEMS DESIGNERS LIMITED

Systems House, 105 Fleet Road, Fleet, Hampshire GU13 8NZ

(1079)

Your ticket to a PRIME® opportunity in Australia



Our Client is Prime Computer of Australia Ltd. As a very successful company, they have expanded rapidly to become one of the leading computer manufacturers in Australia with locations in almost every major business centre. In line with their plans for continued growth and development, they now wish to recruit a number of men or women with Prime experience to work in many of their locations. The successful applicants will have a sound background of at least three to five years in computers with a minimum of two years' Prime related experience, covering one or more of the following areas of expertise:—

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DBMS
COMMUNICATIONS
(X25/Prime environment)

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If you are interested in joining Prime Computer of Australia we would like to talk to you urgently! Senior technical staff from Prime will be in the United Kingdom at the time this advertisement appears.

So cut the coupon or send a brief curriculum vitae listing your computer experience, but highlighting the Prime experience that you have.

URGENT. – Telephone JVG today to discuss

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(129)

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Experience has proven that moving away from traditional computing practices, no matter how evolutionary and gradual, creates its own special set of People/Business related problems. That's why we seek to attract an experienced D.P. Professional with a special set of talents who can take control of this sizeable business and introduce successfully, new areas of high technology to enhance and replace traditional d.p. services.

We see our Candidates as being Graduates, probably under the age of 40 who have achieved considerable experience and success in managing Large-Scale bureau services, preferably based on IBM hardware. This foundation of experience must include extensive customer dealings at middle and upper Management levels, as well as the ability to operate to a defined corporate policy and within realistic budgets.

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For a qualifying discussion on this new opportunity, initial contact should be made with **Alan Carnell** on **021-236 3781** (24 hour answering service). Alternatively, a Curriculum Vitae can be submitted in total confidence to our Birmingham office.

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021-236 3781

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Manchester M3 2JA
061-833 0427

BELGIUM
Avenue Louise 327,
Boite 4, 1050 Bruxelles
010 322-640 7151/71

HOLLAND
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1071 H M Amsterdam
010 3120-760947

(1076)

DEVELOPMENT PROGRAMMERS – MID GLAMORGAN/SAL. NEG.

Age to 30 to produce prototype programs to specifications. Essential to have knowledge of ASSEMBLER level language.

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£25,000 – applicants will have expert experience in the introduction of configuration management systems and procedures in large IBM (JCL and SPF) distributed Software product environment.

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Salary neg. Minimum 2 years on IBM with COBOL

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£11,000. A dynamic company with a policy of intensive investment to ensure its success in the forefront of industry is looking for computer professionals for analysis/programming on mini/micros. Experience on HONEYWELL LEVEL 6 and a good knowledge of PASCAL FORTRAN and TOTAL are required for process control and management information systems.

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Ref. CW 30/9

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(30/9)

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PROGRAMMER

is required at Head Office to take part in the continuing development of our computer system. Applicants should have a minimum of three years' experience and preferably have worked in an on-line environment.

The installation consists of an NCR V8455 using the VRX operating system and NEAT/3 programming language.

Applications which will be treated in strict confidence should be addressed to:—

K. Hulme, Data Processing Manager
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(1090)

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(0961)

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Grade AP3 £5,652-£6,333 (Spinal Column Points 19-23)

Applications are invited for the position of Computer Operator in the Treasurer's Department.

The Council uses at present an ICL 7503 Terminal, soon to be replaced by an ICL DRS50. An ICL 7502 Interactive Terminal with VDUs is already in use.

The operator will be required to operate the equipment and to work in conjunction with the Punch Tape Operator on some document input. Additionally the Operator will be encouraged to undertake local programming for the DRS Terminal and Kode input equipment.

Application forms may be obtained by telephoning Daventry 71100 extension 208 and should be returned to the undersigned not later than first post Monday, 4th October, 1982.

Council Offices
Church Walk
DAVENTRY
Northants NN11 4BJ

R.C. HUTCHINSON
Chief Executive Officer

(0956)

Application Programmers

Finite elements and numerical methods

The Science and Engineering Research Council has a national Interactive Computing Facility based mainly on a network of multi-user minicomputers for interactive applications in engineering science. These minicomputers are connected to powerful batch computers (IBM 3081 and 3032) at the Rutherford Appleton Laboratory.

The interactive computing system is evolving rapidly with the introduction of single-user minicomputers (ICL PERQ). A major component of the computing facilities is the applications software. Finite element and associated numerical software is being developed and supported for use in the UK research community. Applications include structural analysis, electromagnetic fields, fluid mechanics and semiconductor modelling.

A vacancy exists in the Computing Applications Group of Technology Division for an applications programmer to develop and support this numerical software. Applicants should have a good honours degree in some branch of Engineering or Mathematics. Suitable candidates will have experience in the use of mainframe and mini computers and be good FORTRAN programmers.

The post is based at the Chilton site and will be one of the following grades:

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Closing date for applications: 15th October, 1982

0982

serc Rutherford Appleton Laboratory

TOP JOBS

This new section has been introduced to enable readers to locate senior level job opportunities more conveniently. One of the special but important features of this section is that only those jobs offering a basic minimum salary of £16k are eligible for inclusion in "Top Jobs."

Because of the strict salary level restrictions we are enforcing, and the subsequent advanced production arrangements necessary, all space reservations for the "Top Jobs" section must be received in London by 4 p.m. Friday before publication date.

To reserve space please telephone Shobhan Galler (Direct Clients) or Julie Hanneford-Mcinally (Consultancies) on (01) 661 0121.

ComputerWeekly

Classified Department, Quadrant House
The Quadrant, Sutton, Surrey, SM2 5AS

Programmers & Analysts

Contracts

SAUDI ARABIA

We have a number of assignments for IBM MVS COBOL, PL1 & FORTRAN people for the position of Programmers, Analyst/Programmers, Analysts and Systems Programmers. All positions are one year extendable contracts offering £20-25,000 p.a. tax free, PLUS Exceptional benefits absorbing all living costs.
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UK & WEST GERMANY

Commencing September to November

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Call Neil Williams for further details. REF: N795

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LONDON – Immediate Starts

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Call Neil Williams for further details. REF: N794

READING & SW LONDON

Good experience of DATATRIEVE with VAX 11/780 or DEC PDP required for these two different contracts.
Call Elaine Collis for more details. REF: E802/814

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PDP 11 MUMPS Analyst Programmers

6 Months Extendable

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REF: E761

NORTH EAST HOLLAND

IBM System 34/RPGII/MAAPICS
1 year contract
Company are installing MAAPICS at subsidiary company and need expertise in this area. REF: E805

KENT

IBM COBOL IMS DB/DC Programmer with ADF and/or CMS–Immediate. REF: J792

MIDDLESEX

IBM MVS Remis Analyst/Programmer. Immediate start. REF: J780

LONDON

TANDEM COBOL Analyst/Programmer. Immediate.
REF: J778

SAUDI

MARK IV Programmers. Immediate–6 months' duration. REF: J806

SURREY

IBM COBOL IMS DB Analyst/Programmer with ADF–October–6 months. REF: J728

LONDON & HOLLAND

IBM COBOL ADABAS NATURAL Programmer and Analyst/Programmers. Immediate. REF: J726 & [illegible]

KENT

IBM COBOL IMS DB/DC Programmer. Immediate.
REF: J689

HOLLAND

Technical Author required with good writing skills and knowledge of Programming for this 6 month contract.
REF: E812

NIGERIA

ICL 2903/2904–D.P.M.
October/November start, 1 year duration.
Experience as a D.P.M. or Analyst in a medium size ICL installation, sound knowledge of ICL COBOL, degree level education. REF: N793

LONDON

Immediate start, 4 months' duration.
IBM Systems Analyst with experience in Banking or Financial applications. REF: [illegible]

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- ★ **OPERATOR/SUPERVISOR, Burroughs B800. London**
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CONTRACTS

MACRO Writer, George III. Long term. London REF: K124

PDP 11/44, RSX 11M. Long term, start December REF: K128

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IBM 4341, DOS/VSE, Chief OPERATOR. Bahrain REF: K123

IBM SYSTEM 34, OPERATOR. Short term. S.E. London REF: K130

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Specific Plessey responsibility is for the software and hardware associated with the multi-computer packet switching nodes.

New Teams – New Opportunities
Currently we are building up our software teams, who are now working on design, implementation and support. The teams are small, providing varied work in a flexibly structured organisation. This could be your opportunity to join them.

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For further information, ring Graham Spittle on Titchfield (0329) 43031 Ext 2228 or Titchfield 46866. Or write to him at Plessey Defence Systems Limited, Titchfield, Fareham, Hampshire PO14 4QA.

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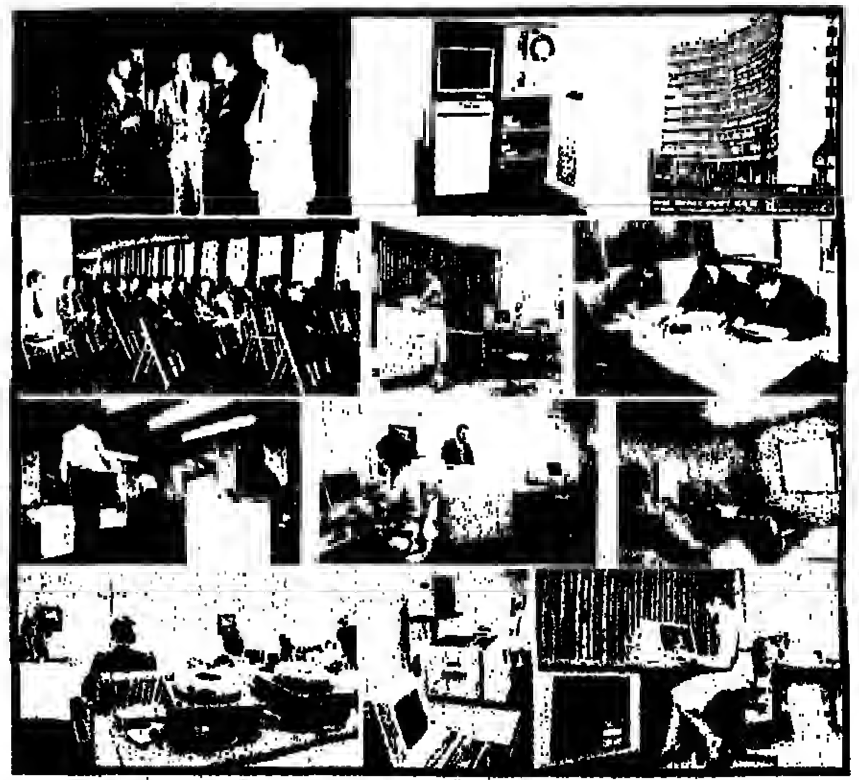

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The Bank are committed to a series of major and far reaching technical developments that will further strengthen their business activity in Europe, the Middle East and Africa. This major undertaking requires additional resource in the Systems Programming Team, and where the successful candidates will be given every opportunity and encouragement to gain intimate understanding and involvement with Database and TP software.

Candidates will have gained their DOS/VSE experience in any commerical environment, but must be able to prove their adequate comprehension of the Operating System, and/or of any other associated or related utilities and software facilities.

Two IBM 4341 machines provide the production and back-up processing capability, with a third 4341 and a 4331 available to the systems and application software development teams. The installation will soon upgrade to DOS/VSE 3 with VTAM, and later adopting SNA, and eventually will be totally 3370.

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The project will be carried out in collaboration with Normalair-Garrett and Baker Perkins, each with a strong reputation for advancing manufacturing efficiency. The posts, of three years duration, carry a starting salary from £6375 on research 1A scale. Enquiries to Professor R. Bell, Department of Engineering Production.

Loughborough *Leicestershire*
(1115)

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CROSSWORD

Solution to Prize Crossword No. 32

1 R	U	2 C	H	3 E		4 G	I	5 G	L	6 A	M	7 P	S	
A		O		R		I		A		N		E		8 C
9 W	O	R	R	I	E	D		10 T	O	D	E	A	T	H
N		P		C		D		E		Q		C		A
11 E	G	O	M	A	N	I	A		12 D	U	P	E	R	S
S		R				N				I				E
13 S	E	E	N		14 N	E	W	15 S	V	E	N	16 D	O	R
		A		17 D		S		T		T		U		
18 F	E	L	L	O	W	S	H	I	P		19 S	N	U	20 B
I				M				L				G		L
21 G	R	22 A	V	E	N		23 M	E	M	24 B	R	A	N	E
U		N		S		25 R		T		R		R		N
26 R	I	G	H	T	T	O		27 T	H	E	H	E	A	D
E		E		I		L		O		A		E		E
	28 D	R	Y	C	E	L	L	S		29 D	O	S	E	D

EILEEN Page is the lucky winner of £10 for September. She is operations manager with British Nuclear Fuels. The £5 prizes go to Hugh Brown, technical support manager with Honeywell, and John Hill, district manager with NCR.

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EMP/AGY. PRIMAX COMPUTER SERVICES (1110)

ComputerWeekly

October 7th, 1982

MIDLANDS RECRUITMENT FEATURE

The October 7th issue of Computer Weekly – Britain's highest requested computer journal – will contain a special feature outlining career opportunities in the Midlands.

Computer Weekly is the only computer journal to regularly publish editorial features covering a variety of subjects linked to the job market.

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AND
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This will be a small specialist team with an anticipated complement of around 6 sales people within the initial period of development. This opportunity is therefore likely to suit applicants currently performing at Area Sales Management or Senior Sales Executive level for a major manufacturer or in a first line sales management capacity for a Senior Micro computer operation. If you have a track record of successful selling experience in Mini or Micro computers and the potential for advancing with a dynamic company that is an industry leader, then we would like to meet you

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(1109)

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COMPUTER UNIT
requires a
PROGRAMMER

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Preference will be given to good graduates able to support users of a wide range of statistical packages and to maintain those packages on the VAX. Proficiency in FORTRAN is essential and familiarity with VAX/VMS, PASCAL, BASIC is advantageous.

The post is on the scale £5550-£9370 with prospects to £11,105. Applications (closing date 25 October 1982) together with full c.v. and names of two referees to The University Secretary, University of Stirling, STIRLING FK9 4LA. Tel 3171, ext 2314, from whom further details are available. (1099)

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

PROGRAMMER

Applications are invited for a programmer to join an existing program development group in the Department of Civil Engineering. Experience in FORTRAN is required, experience in business applications and micro-computers would be advantageous. A new graduate in an appropriate subject would be acceptable.

Starting salary within the scale £5,550 to £11,105, placing according to age and experience. The initial appointment will be for 12 months with the possibility of continued employment. Application forms and further details from Paul Johnson, Establishment Officer, ref. 82/20 CV.

Loughborough *Leicestershire*

(1107)

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SALES BIT

Quality of Management – 24

With up-to-date records, you're in control

LAST week I wrote about the importance of reviewing and rationalising sales documentation. This ensures that call-planning, call-reporting and client record systems contain the absolute minimum of information needed to enable the sales team to operate at maximum efficiency and provide the company and its management with the information it must have to operate effectively. No more, no less!

I mentioned but did not enlarge upon the equally unsatisfactory situation of under-documentation. There is often a tendency to overlook the need for sales documentation in what might be regarded as special circumstances.

Three examples come immediately to mind: Calls made by management; calls made by technical support personnel; and sales activity within a small salesforce.

Call-reports are the means for recording events and informing interested parties. This is no less applicable if the call is made by a manager or a technician. The record still needs to be maintained, other people need to be informed, not least of whom is the salesperson doing the job.

There is nothing quite so disturbing than to be told "We had a visit from one of your people recently." (Thinks) "Really? Who? What was discussed? What was promised? Will I be in conflict with what has already been said?" – and so on.

Not a satisfactory way to work, and one which can be completely avoided by the production and transmission of a call-report.

In the small company environment where the lines of communication ought to be stronger and clearer and the salesforce could be anything from one to "two men and a dog", there's a great temptation to discard some aspects of sales documentation altogether, particularly client records, call-plans and call-reports.

"After all," everyone assumes, "we all know the clients, their personalities and needs, why start writing down what is common knowledge?"

That is fine for a short while, until the company grows, new people join, others depart, client responsibilities change, people go on holiday, people fall sick, a client says the subject was never discussed at the last meeting and there is no evidence to contradict the claim, and so on.

Without a basic recording and planning system, all these situations can become a major problem, and major sales organisations are no exception.

It is at times like this that senior management realises it is not in control of its own organisation, no matter how small, and salespeople learn that the chances of achieving their full sales potential are extremely limited.

As I mentioned last week, one yardstick for measuring insufficient sales documentation is the total absence of complaints from the salesforce about the need for producing or maintaining any. However, a more scientific approach to the matter is to completely evaluate what information is required in order to run a completely effective sales and marketing operation.

Are records being maintained that will enable the salesman concerned, along with his supporting colleagues, to obtain complete information on any client in terms of location, contacts, product, application, etc? – in other words, is your sales team keeping client records?

Are your salespeople pre-organising their sales activity and do you know where to find them when you need them? – are they making call-plans?

Have you the means for discovering what happened during the last sales contact with any particular client or indeed what has transpired during previous meetings, and do you have a real measure of the number of calls being made by your salespeople? – for this you need call-reports.

If the answer to any of these questions is "no" then you have to accept that you are not fully in control of your sales operation and need to do something about it right away.

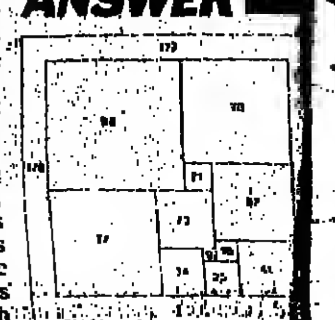
Whatever system you decide upon will not be popular, but bearing in mind that effective documentation is essential for the operation of a successful sales organisation and that the sales team has more to gain from maintaining it than anyone else, you can take it for granted that the volume of individual moaning will be inversely proportionate to individual self-discipline and sales awareness.

Alan Williams

COURSES

■ THE Construction Industry Computing Association is joining with Riba Services to present a series of courses aimed at managers responsible for policy on computers, architects responsible for advising on, selecting and applying systems and other staff who may be using programs. Each workshop is a self-contained training unit showing where to apply micro technology to work; how to select systems, buy and use hardware; how to design, write and select programs and how to introduce micros into a practice. First of the Microcomputer Workshops for Architects takes place in London from October 27-29; the next is in March 1983. Fee is £275 plus VAT. Details: 01-637 8991.

PUZZLE ANSWER



Banks need computers – and experienced staff to run them

Martin Banks reports on job opportunities in banking and insurance

IN ANOTHER dozen or so years it will be difficult for people to imagine a time when the banking and insurance industries managed to operate without data processing systems.

Today the two are already heavily intertwined, with an almost synergistic relationship. Without computers, the complexities of international financing and insurance would surely cease to function, and without such users the computer manufacturers would lack a significant driving force in the development of systems and software.

Despite this relationship, however, the demand for staff to work in computer installations within the banking and insurance industries is suffering the same downturn that all other areas of the industry suffer.

The need for new staff is slight at the moment, and shows little sign of improving in the near future. This is particularly sad for the large number of trainees and new recruits to the computer industry these two sectors have normally taken on.

As with most other areas of the computer user fraternity today, the majority of banking and insurance companies seem to have curtailed recruitment, and tend now to be seeking only replacement staff for specialist positions that cannot be filled from internal resources.

To some extent, of course, the employment patterns in the DP departments of banks and insurance companies have been in a state of considerable flux in recent years. The computer systems themselves have played a part in this, as they have grown more powerful and more capable.

The ability of the financial institutions to centralise their data processing requirements through the use of ever larger mainframe systems with ever more complex communications facilities has meant that the traditional home of such users, the City of London, has lost much of its relevance.

While it is still important for "head office" to be located at the centre of the financial action, the decision makers no longer require the necessary numbers to be crunched and filed in that same building.

In the recent past, many staff have been asked to uproot themselves and move to new locations which could be anywhere in the UK. Many refused to move, so recruitment demand was distorted for a while as replacements were found for existing jobs.

As that urge to relocate worked its way through the banking and insurance business, it was clear that there would be some decline in the demand for new staff.

Typical of such companies is Sentry Insurance Management, which relocated its computer centre from London to Milton Keynes. A spokesperson for the company highlighted the problem by saying that just after the move, staff turnover had been high, but that now the centre had become established, turnover was very low.

Sentry, like many similar organisations, is not recruiting at present, and there are no immediate plans to expand its DP operations, according to the spokesperson. The only new staff that will be sought are replacements for specialist or highly skilled personnel, if the jobs cannot be filled internally.

This view of recruitment policy was also put forward by the Midland Bank. As one of the large employers of DP staff, the bank has curtailed recruitment significantly. According to Angela Brothwell, personnel assistant at the bank's Sheffield computer centre, recruitment is now limited.

"We are doing little recruitment now," she said. "In general, the only staff we seek now are for specialist projects where the staff requirement cannot be met from internal resources." Such jobs are normally for systems analysts and similar specialists that have several years of relevant experience behind them.

Midland still takes on recruits but the number is significantly lower than in the past – 10 honours graduates have joined this year.

The trend towards seeking only specialist staff for specific projects was borne out again, this time at Morgan Guaranty, a banking and finance company with worldwide operations. Mark Parker, of the company's personnel office in London, said that the company had no requirements for any trainees. "We are not taking any on, and no future requirement for trainees is foreseen," he said.

But the company is currently seeking new staff for a specific project. "The project has been running for some time," Parker said, "and we are looking for additional staff with at least two years' [illegible] experience. As we run Hewlett-Packard hardware, experience in that area would also be desirable."

The ideal candidate for any job in the banking industry is someone who has already acquired the necessary expertise, especially someone with a working knowledge of relating DP to the intricacies of international financial management.

As with so many other sectors in the user community, banking and insurance is a good business to be in, once you are in it. For those with general experience, there are jobs to be had, although it is [illegible] to break in.

For those with a sound background in banking there can be a luxury of choice. But for the trainee, unfortunately, the situation at present seems like so many others, restricted.

"The ideal candidate for any job in the banking industry is someone who has already acquired the necessary expertise."

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To: U. R. Looking
From: M. E. Kirk
Developments Manager
Subject: Your Future

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(1094)

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The Abbey National Building Society currently supports a Real-Time system for its extensive branch network which is based on a Univac 1100/82 central computer. To further improve its customer service and operational efficiency the Society is currently installing advanced terminal and telecommunications equipment. The first phase of the system is now operational and is currently being introduced into the branch network.

The Society's computer centre is currently based in London N.W.1. but is scheduled to relocate to a purpose built site at Bletchley, Buckinghamshire during March/April 1983.

This is a unique opportunity to join a young and dynamic Systems Department which is expanding to keep pace with the Society's business requirements. A challenging and stimulating career is offered and we are seeking highly self-motivated personnel who show total commitment in their work.

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For further technical information about these jobs please telephone Rob Farbrother, Deputy Systems Manager on 01-486 5555 Ext. 3393.

For an application form telephone or write to:–
Mrs. F. H. Wakefield, Senior Personnel Officer, Abbey National Building Society,
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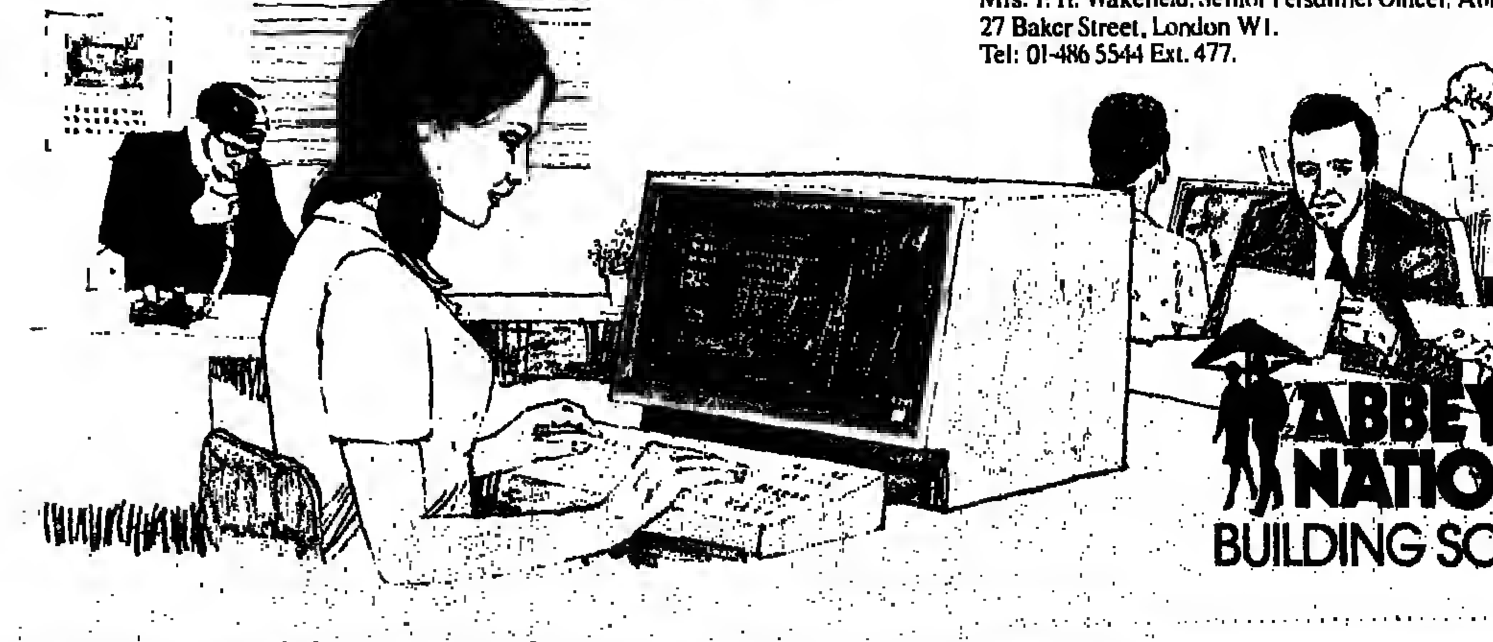
Tel: 01-486 5544 Ext. 477.



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